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LONDON·MEDICAL SOCIETY

AN INQUIRY INTO THE MEANS OF IMPROVING MEDICAL KNOWLEDGE,

BY EXAMINING
All thoſe METHODS which have Hindered,
OR
Increaſed its IMPROVEMENT in all paſt Ages.

To which is added,
AN EXPLANATION
OF THE
MOTION and ACTION of FIRE,
IN AND
UPON THE HUMAN BODY,
BOTH
IN CONTINUING LIFE,
AND IN
PRODUCING AND CURING DISEASES.

By *WILLIAM HILLARY*, M.D.

Rationalem quidem puto Medicinam eſſe debere: inſtrui vero ab evidentibus Cauſis; obſcuris omnibus, non à cogitatione Artificis, ſed ab ipſa Arte rejectis. CELSUS *in Præfat. ſub finem.*
Tolle Cauſam et ceſſabit Effectum.

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MDCCLXI.

PREFACE.

THE Deſire of ſeeing Medical Knowledge further improved, and the Means of knowing the true Cauſes of all Diſeaſes rendered more certain, as well as the Methods of curing them made more perfect and ſucceſsful, were the Motives which firſt induced me to make the following Inquiries.

An impartial Inquiry into the firſt Riſe of the medical Art, and the Methods and Means by which all medicinal Knowledge has been obtained, and how it has been gradually improved in all Ages paſt, ſeemed to be the moſt probable and effectual Way to lead us into the right Method of further improving that Science; if we at the ſame time carefully obſerve, and judiciouſly remark, all thoſe Methods which have been taken with an Intention of making Improvements therein, but have unfortunately proved to be the greateſt Hinderance to its Progreſs and Improvement; either by fallaciouſly leading ingenious and learned Men into the Methods of forming imaginary philoſophical Hypotheſes, or any other plauſible erroneous Methods, which have both hindered them *and others from purſuing thoſe Methods by which they might have improved the medical Art. Let us therefore endeavour to make this Inquiry, without either Favour or Affection for, or Prejudice againſt any Authors, and all Syſtems and Hypotheſes, which have either ſucceeded, or failed in their Attempts to improve this Art, and ſpeak our Sentiments with that Freedom and Impartiality, which every Inquirer after* Truth *ſhould always ſpeak and write, and without Malevolence or Prejudice to any one, tho' their Works may juſtly deſerve Condemnation: And then let us diligently purſue all thoſe Methods by which the* ART *has been, or may be further improved; and as carefully avoid falling into any of thoſe Hypotheſes, Syſtems, and Methods, which have diverted Phyſicians from, and hindered the Progreſs of, its Improvement; in order that the medical Science may be ſtill further improved, and brought to a State of greater Perfection.*

These Conſiderations and Deſires, induced me to ſpend thoſe leiſure Hours which I had to ſpare, on my firſt coming to reſide in this City, (which I could not have before, when employed in an extenſive Practice) in purſuing theſe Inquiries, and collecting the following Obſervations, rather than ſpend them in the uſual Chat of a Coffee-houſe; and being accuſtomed to Buſineſs, I could not be idle, nor ſpend them in trifling, or reading Trifles, though they are ſo much in faſhion; therefore I was willing to contribute

tribute my Mite towards that neceſſary, great, and uſeful Work.

From theſe Inquiries it appears, that the firſt medical Knowledge, and all the Improvements that were made therein, from the earlieſt Account of Time, down to that of Hippocrates, *were all obtained by making Obſervations on Diſeaſes, and trying various Experiments with Simples, and other Medicines, till they gained ſome Knowledge of their Virtues and Effects. Hence it appears, that all their Practice was ſolely* Empirical *before the time of* Hippocrates.

But we find that this great Father of Phyſick, *and* Prince of Phyſicians, *ſo much improved that* empirical Practice *of* his *Predeceſſors, that* he *brought it in* his *Time to be a real* medical Art: *Firſt, by accurately obſerving Diſeaſes, their different Symptoms, Appearances, and Effects which they produced in the human Body; and then by as carefully obſerving all the Changes of the Air, Weather, and the Seaſons, the various Effects of different Waters, and Changes of Diet, the different Situations of Places, the various Actions and Irregularities of Men, and all the other Cauſes, both internal and external, which either produce or affect Diſeaſes in the Body; and by Reaſoning truly from thoſe different Cauſes, to the Effects which* he *ſaw they produced,* he *was enabled to inveſtigate the true*

Cauſe of each, and how generally moſt Diſeaſes then known, and their Effects, were produced. And then by accurately obſerving Nature, *what ſhe did, and how ſhe carried off and cured each of thoſe Diſeaſes,* he, *by the Aſſiſtance of true inductive Reaſoning, both learned of* her *to know what ſhe indicated to him to do, and how* he *ſhould aſſiſt* her *to carry off and cure all thoſe Diſeaſes.*

It was thus that he *made all thoſe great Diſcoveries and more real Improvements in the medical Art, in leſs than one Century, than all* his *Predeceſſors had done in the Space of Two Thouſand Years before him; and we may add, more than all* his *Succeſſors did in Two Thouſand Years after him. Thus* he *not only inveſtigated the true Cauſes of moſt Diſeaſes then known, but* he *alſo diſcovered the moſt rational and judicious Methods of treating and curing them; wherefore* he *has been juſtly eſteemed and called the* Father *and* Prince of Phyſicians *ever ſince.*

Notwithſtanding that this Hippocratick Doctrine *was ſo rational and true, yet we find that it was but ſtrictly followed and adhered to for a few Centuries after his time, even among the* Grecians, *if we except* Aretæus Cappadox, *who ſeems to have adhered to it more cloſely than any of the* Greek *Phyſicians: And altho' the* Romans, *when they conquered that Country, brought the* Hippocratick Doctrine, *and all the* Sciences *from thence, to* Rome; *yet notwithſtanding*

ſtanding the Excellency and Truth of that Doctrine, *it either was not truly underſtood, or was in a ſhort time almoſt entirely neglected there by all, except the judicious and elegant* Celſus, *who was the laſt* Roman *that ſtrictly adhered to the wiſe Precepts, and followed the* Practice *of the great* Hippocrates, *and lived about Five Hundred Years after him. For we find, that at, or ſoon after the time of* Hippocrates, *various ingenious and plauſible Syſtems of Philoſophy were invented by ſeveral of the* Greek Philoſophers, *which, when they came into faſhion, were introduced into the Sciences, and in their Turns into the* Theory of Phyſick, *at different times, by different Phyſicians; for in both thoſe Nations they ſoon began to follow thoſe new Hypotheſes, and to depart from that rational Theory and judicious Method of Practice, which had been eſtabliſhed by* Hippocrates, *which has proved to be the greateſt Hinderance to the Improvement of the medical Science. Thus the* Corpuſcularian Philoſophy *of* Epicurus *was firſt introduced by* Aſclepiades; *and the* Peripatetick Philoſophy *of* Ariſtotle *by* Galen; *and ſeveral other Syſtems ſince, as they came into vogue, by others: And thoſe Phyſicians, who introduced them, have each of them vainly attempted to account for the Cauſes, and to explain the Manner of the Production of Diſeaſes, and the Methods of curing them, by, and according to the Principles of his favourite Philoſophy: And as moſt of the Principles of their Philoſophy were erroneous and falſe, ſo conſequently moſt of their Inductions*

from

from them were ſo alſo; *wherefore, that they might render their* Theories *more plauſible and Truth-like, they invented various fine imaginary Hypotheſes, conformable to the Principles of the Philoſophy then in faſhion, and vainly attempted to compel both* Diſeaſes *and* Nature *to conform to the Principles of their Philoſophy*; *though thoſe Principles often had no other Exiſtence but in their own Imaginations. Thus by Reaſoning from* hypothetical Data, *and conformable to imaginary Principles, they formed their fine plauſible* hypothetical Theories of Phyſick, *which had no real Exiſtence in the Body, nor Conformity to* Nature: *And none exceeded, or equalled* Galen *in forming* Hypotheſes *and* hypothetical Theories, *nor rendered them more plauſible*; *hence his* Theory of Phyſick *was univerſally received by all* Phyſicians, *both among the* Arabians *and the* Europeans, *during the Space of Fourteen Hundred Years, or more, which not only led many learned and ingenious Phyſicians into the Method of forming* hypothetical Theories, *and thence into various Errors, but it diverted them from purſuing thoſe Methods, by which they might have made ſeveral uſeful Diſcoveries and great Improvements in the* medical Science.

And we find, that altho' Learning and the Sciences had made ſo great a Figure during ſo many Centuries in Greece, *and for ſeveral at* Rome, *before and after* Galen's *time*; *yet we alſo find, that* Effeminacy *and* Luxury *had begun to make great Advances before,* *eſpecially at* Rome, *and made greater after* Galen's *time; and as theſe increaſed,* Learning, *and the* Sciences *declined, till at laſt* they, *and the mighty* Roman *Empire, which had conquered ſo many great Nations, both fell together in the fifth Century: And the* Popes *having artfully gained great Power, and having governed many Years as ſpiritual, now eſtabliſhed themſelves as temporal Princes alſo; ſoon after which, not only the* Arts *and* Sciences, *but almoſt all Learning alſo, ſunk to the loweſt Ebb, and were ſo overwhelmed in a Deluge of Superſtition and Ignorance, which* they *and their* Monks *introduced, that they were at laſt almoſt entirely baniſhed out of* Europe, *and fled into the* Saracen Empire *in the* Eaſt, *in the ſeventh Century, where* Learning *and the* Sciences *met with a more favourable Reception, and were greatly encouraged by the* Arabians, *and their* Califfs, *during the Space of ſix or ſeven Centuries; though they are now almoſt ſunk again into the ſame State of Ignorance which they were in, before they received their Learning from the* Greeks *and* Europeans. *During this time, all* Europe *remained involved in the darkeſt State of Superſtition and Ignorance, except a few learned Men among the* Greeks, *whereof ſome were* Phyſicians, *who lived between the fourth and the eighth Centuries; but as they chiefly followed the* Theory of Galen, *they made no Improvements in the medical Art, except a few in* Surgery, *and in the* Materia Medica.

During this long time that Superſtition and Ignorance reigned thus triumphantly in Europe, Learning *and the* Sciences *were much encouraged by the* Saracen Califfs, *and were cultivated by the* Arabians, *who made ſome conſiderable Improvements in the* medical Science, *not only as they have given us an Account of ſeveral* new Diſeaſes, *which were not known to the* Greeks, *and the Methods of treating and curing them, but they introduced and taught us the Uſe of ſeveral valuable* antiphlogiſtick Medicines, *which were not known to the* Greeks *or* Europeans *before: They alſo firſt introduced the* Chemical Art *into the* Medical, *whereby ſeveral of the moſt efficacious Medicines that we now have in the Practice, have been ſince diſcovered; but what is ſtill of much greater Importance is, that the* Arabians *preſerved* Learning *and the* Sciences, *when they were baniſhed out of* Europe *by the* Prieſts *and* Monks, *who kept the* Laity *in the darkeſt Ignorance; and ſome Centuries after, the* Arabians *brought them into* Spain, *and ſome other Parts of* Europe; *and the* Greeks *a few Centuries after that, being driven from* Conſtantinople *by the* Turks, *brought the Works of the* learned Greeks *with them into* Italy, *from whence, and from* Spain, *Learning began to ſpread ſlowly into ſome other Parts of* Europe, *but not without great Oppoſition from the* Monks, *who ſtill endeavoured to keep the* Laity *in that State of Ignorance, and the Practice of Phyſick to themſelves, though they were exceeding ignorant therein: So that it is in vain to* *look for any new Diſcoveries, or expect to find any Improvements, either in the Medical, or any other Science, during that long time of Ignorance in* Europe.

This was the State of Learning till that excellent Art of Printing *was found out, and Men began to learn to read and write, and then to think for themſelves; and the* Reformation *began to take place, and ſpread, and the Generality of Mankind began to diſcover that they were created rational Beings, and as ſuch, had a natural Right to think for themſelves; and notwithſtanding all the Oppoſitions that were made, and the Perſecutions that were raiſed againſt Learning, and the Learned, by the* Monks, *the more conſiderate and ingenious Men began to acquire ſome Learning, and ſoon obtained more than the* Monks *had, which much enraged them; and in Proceſs of Time, Men acquired ſome Knowledge of the Sciences, and eſpecially of the* medical Science; *ſoon after which they began to improve in it, and ſome conſiderable Diſcoveries were made therein by* Veſſalius, Euſtachius, *and ſeveral others.*

And the great Lord Verulam *having ſoon after that, detected and exploded the Errors of the* Ariſtotelian Philoſophy, *and ſhewed Mankind the right Way to arrive at the Knowledge of* Truth, *eſpecially in all Philoſophical, and conſequently in all medical Subjects, by the Means of* accurate Obſervations, juſt Experiments, and true inductive Reaſoning, *it ſoon put the Ingenious and Learned upon purſuing thoſe Methods, by which ſeveral great Diſcoveries were made. Thus the great Dr.* William Harvey *diſcovered the Circulation of the Blood, and Dr.* Sanctorius *the Quantity of the inſenſible Perſpiration; and ſeveral other learned* Phyſicians *diſcovered the Structure, Uſe, and Office of various Parts of the human Body: And ſoon after came the eminent and judicious Dr.* Sydenham, *who revived and brought the* Hippocratick Doctrine and Practice *into our Nation, by which he much improved the* Practice *here, and ſhewed others the right Way how to improve the medical Art ſtill further.*

Soon after Dr. Sydenham *came the truly learned and great Dr.* Boerhaave, *who was bleſſed with great Penetration, a ſound Judgment, aud the ſtrongeſt Memory; all which he early applied with indefatigable Induſtry, to obtain a perfect Knowledge of all the learned, and many of the modern Languages, and all the* Sciences, *by which* he *became a great Mathematician, an able Philoſopher, the greateſt* Anatomiſt, Chemiſt, Botaniſt, *and the moſt eminent* Phyſician *of this, or any other Age. With this great Fund of Knowledge, and a perfect Acquaintance with all the Works of the great* Hippocrates, *and the other* Greek, Arabian, *and all the valuable modern* Phyſicians, *and the Works of all the* Philoſophers, ancient *and* modern; *(but the Works of* Hippopocrates, Aretæus Cappadox, Alexander Trallianus, Celſus, *and* Sydenham, *were the* medical Authors; *and* Veſſalius, Euſtachius, Morgagni, *and* Ruyſch, *the* Anatomical; Newton, BACON, *and* Boyle, *the* Philoſophical Authors, *which* he *moſt admired and eſteemed*;) *nor did he neglect or omit any thing that was valuable or uſeful, that was to be found in the Works of any other* Authors: *From this Fund of Knowledge, and his own continued accurate* Obſervations *on the* Air, Diſeaſes, *and* Nature, *and what* ſhe *really did*, HE *formed, by the Aſſiſtance of* juſt inductive mechanical Reaſoning, *that excellent*, *moſt valuable*, *and* true Theory of Medicine, *the Heads of which he has left us in his* Inſtitutiones Medicæ; *and by* obſerving Nature, *and* Reaſoning truly *according to that* Theory *and* Nature, *he formed his no leſs* valuable, judicious, *and moſt* excellent Method of Practice, *in moſt Diſeaſes, the Heads of which* HE *has alſo left us in* HIS *incomparable Book of* Aphoriſmi de Cognoſcendis et Curandis Morbis. *By theſe Methods, and with theſe great Abilities, he made more uſeful Diſcoveries, and greater Improvements in the* medical Science, *than any Phyſician ever did ſince the great* Hippocrates.

His Method of Reaſoning, and the many great Improvements which he made, both in the Theory *and* Practice of Phyſick, *may be ſeen and better underſtood, by attentively reading* his Lectures, *which he gave upon thoſe two excellent Books*, his

Inſtitutiones Medicæ, et Aphoriſmi de Cognoſcendis et Curandis Morbis; *ut et* Prælectiones de Morbis Nervorum; *which were all taken from* HIS *Dictates, in Short-hand, and publiſhed ſince his Death; the firſt by the learned Dr.* Haller; *and the ſecond by the learned Baron* Van Swieten; *and the laſt, on nervous Diſeaſes, by the learned Dr.* J. Van Eems *at* Leyden, *this preſent Year: In which he has clearly demonſtrated what Diſeaſes are truly nervous, and that ſome others which are uſually called ſo, are not truly ſo: A Subject which was very much wanted, as no one ever had treated on* nervous Diſeaſes, *ſo clearly, elegantly, rationally, and truly before. There are ſeveral other Treatiſes, which have been injuriouſly and falſely publiſhed in* his Name, *which gave* him *much Concern, as they are very erroneous, and contain many falſe Hypotheſes and Aſſertions, which may lead thoſe who read and follow them into various Errors.*

It was thus, and by theſe Means, that the great HIPPOCRATES, SYDENHAM, *and* BOERHAAVE, *made all their Diſcoveries and Improvements in the* healing Art: *And it has been by the ſame Means,* viz. *by making* accurate Obſervations, judicious Experiments, *aſſiſted by* juſt inductive Reaſoning, *conformable to* Nature, *that all* medicinal Knowledge *has been obtained, and all the Diſcoveries and Improvements therein have been made; and it is by the ſame Methods only, that it muſt and can be yet further improved, and brought to greater Perfection.*

It is well known, that many fine Hypotheſes, and pleaſing plauſible Theories, *on various Diſeaſes, have been invented and formed in various Ages, and eſpecially within this laſt Century: Such of them as are perfectly conſiſtent with* Truth, *and conformable to* Nature, *let us embrace, and ſtrictly follow them; and ſuch as are imperfect, yet have ſome Congruity with Nature and Truth, let us endeavour to improve and perfect them; but ſuch as are only hypothetical, let us entirely reject them: And I ſincerely wiſh, that the Number of the firſt were more than they are; let us therefore endeavour to add to and increaſe them, by producing more ſuch as really are ſo.*

Having thus ſpent ſome leiſure Hours in collecting this Account of the Methods and Means by which all medical Knowledge has been obtained and improved, and carefully remarked thoſe Methods which have hindered the Progreſs of its Improvement, I laid it aſide, purpoſing to leave it as a poſthumous Tract; but ſome Perſons of Diſtinction and Learning, happening by chance to ſee it, were pleaſed to think it contained ſome Things which are both new, and would be uſeful, eſpecially to young Phyſicians, as it might both inſtruct and prevent their falling into the Empirical Method of Practice, *now ſo much in* faſhion; *therefore they deſired that I would publiſh it now; wherefore I now comply with their Requeſt, and wiſh it may either be uſeful to that Purpoſe, or that it may excite others to make further Improve-*

ments in the medical Science: And in order to that, I have endeavoured to place all thoſe Methods which always have, and ever will, lead young Phyſicians into Miſtakes and Errors, in a clear Light, ſo that they may ſee and avoid falling into them; as alſo to explain and ſhew thoſe Methods by which all medical Knowledge has been obtained and improved, that he may diligently purſue them, and further improve the Science, after he is in Practice; for which we ſuppoſe him fitly qualified, by his being well inſtructed in Anatomy, Botany, Chemiſtry, Pharmacy, Geometry, *the* Mathematicks, Experimental and Natural Philoſophy, *and well acquainted with the* Works of Hippocrates, Celſus, Sanctorius, Sydenham, *and the* Theory *and* Practice *of the truly great* Boerhaave; *and ſtill the better, if he is well acquainted with the Works of all the beſt of the other ancient and modern Authors herein mentioned: It will enable him to make his Obſervations on the* Air, *the* Weather, *and* Diſeaſes, *their* Symptoms, *and the* Effects *which they have on the human Body, more judiciouſly; and from them, and a true Knowledge of the Structure, Uſe, Office, and Action of the different Parts of the Body, aſſiſted by clear and juſt inductive Reaſoning, they will enable him to inveſtigate and know the true Cauſes, and the Manner of the Production of Diſeaſes, agreeably to the Actions of* Nature; *and then by accurately obſerving what* Nature *does, and indicates to be done, he will be enabled to form a* rational *and* true Theory of Diſeaſes,

eaſes, *and a* judicious Practice, *and to know both when and how he ſhould aſſiſt* Nature, *agreeably to her Intentions, in the moſt ſucceſsful and ſatisfactory manner, as the great* Hyppocrates, Sydenham, *and* Boerhaave *did; and by which the* medical Science, *and its true* Practice, *may be ſtill further improved, and brought to a State of greater Perfection.*

In this Inquiry I have ſpoken my Sentiments with that Freedom, which every Inquirer after Truth and Knowledge ſhould ſpeak; and have juſtly blamed and condemned all falſe hypothetical Theories, *and all* Empirical Practice, *as they are injurious to Mankind, without any indecent Language, or perſonal Reflections upon any one, as I only condemn the wrong* Empirical Practice, *not the* Men; *and altho' ſuch Practice, and the Craft of Phyſick, may be gainful to thoſe who uſe them, they never can be truly ſatiſfactory, nor gain thoſe who practiſe them, a laſting good* Name.

As this Tract was collected and written at different Times, there probably are ſome unneceſſary Repetitions in ſome Parts of it, (as the ſame Sentiments will recur to the Mind) which might be avoided, if I had Leiſure to tranſcribe it again, and the Diction and Language might thereby be rendered more conciſe and elegant; or might have been ſo, if I had paid more Attention to that; but as the Intention of Writing, as well as Speaking, is, that they may be underſtood, *I was more attentive to Reaſoning truly, and expreſſing my Sentiments plainly, intelligibly, and agreeably to Truth, than how to ſay Things elegantly and prettily, though the latter may be more admired by ſome ſuperficial Criticks and Pedants, than the firſt: And if what I have ſaid is but intelligible and true, and carries ſo much Conviction with it, of its being ſo, that it may induce ſome others to purſue thoſe Methods of improving medicinal Knowledge, which are herein recommended; or if it contains any thing that is either uſeful or new, which may contribute ſomething to its Improvement, or may be the Means of exciting ſome other Phyſicians to make any further Diſcoveries or Improvements in the medical Science, which may be uſeful to Mankind, I ſhall not think my Time and Labour loſt.*

And as FIRE *is ſuch a very material Agent, and is ſo neceſſarily and conſiderably employed by Nature, both in performing all the Functions of Life, and in the Manner of producing, and the Methods of curing various Diſeaſes, I have added a Section to the latter End of this Tract; wherein I have endeavoured to explain the Manner of* Fire's acting *on the human Body, in producing all thoſe* Effects, *according to* its peculiar Laws of Motion.

AN INQUIRY Into the METHOD of improving MEDICAL KNOWLEDGE.

SECT. I.

On the firſt Riſe of Medical Knowledge.

WHEN we attentively examine the Nature and Conſtruction of the human Body, and duly conſider the various Functions of Life which it continually performs, and obſerve the ſeveral Changes which it every Moment undergoes by them, we may clearly ſee, that ſuch is its Structure and Mechaniſm, and ſuch are the Materials of which it is compoſed, that its DIVINE CREATOR only intended it to ſubſiſt for a determinate Time, and that it muſt at laſt unavoidably be ſo changed, as to be finally diſſolved by Death [a]; and that ſuch a Change is every way the beſt adapted for the Well-being and Happineſs of Man, in thoſe States which INFINITE WISDOM intended him to exiſt in.

And ſeeing that the human Body is thus ſo wonderfully formed, that it muſt unavoidably undergo thoſe Changes, and is alſo liable to Injuries and Accidents which produce Diſeaſes, and Death at laſt: And as both Diſeaſes and Death are uſually attended with Pain, that Pain may not only ſerve to remind Men of that final Change, which they muſt unavoidably undergo, but is alſo a Means to induce them to ſeek for ſome Remedy to remove that Pain, as well as to endeavour to prevent their Diſſolution by Death for a Time.

We may therefore very reaſonably ſuppoſe, that even the very firſt Generations of Mankind, as rational Beings, in whom the Principle of Self-preſervation was implanted, were induced by the Senſation of Pain and Sickneſs, to ſeek for ſome Remedies to remove that Pain, and to relieve or cure that Sickneſs, with which any of them were at any time afflicted, as well as to prevent their Diſſolution by Death.

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[a] Corpus bene ſanum, per Actiones a Vitâ Sanâ inſeparabilis ſenſim ita mutatur, ut tandem Mors ſenilis accidat inevitabilis. Boerhaavii Inſt. Med. Sect. 1053.

And inaſmuch as even the firſt Men muſt have obſerved, and found by Experience, that their Food and Drink did not only entirely remove, and for a time relieve them from that acute Pain which is cauſed by Hunger and Thirſt, but that they were alſo the Means of ſupporting and continuing Life, and ſo of preſerving them for a time from Death. And as their Food, during the firſt Ages of the World, was taken from and chiefly conſiſted of Vegetables, and their Fruits and Seeds, with the Addition of Milk from their Flocks, and Water was their drink, which they found always did relieve them from that Pain which was cauſed by Hunger and Thirſt; it is reaſonable to ſuppoſe, that when they found themſelves afflicted with Sickneſs or Pain, either from Wounds, Hurts, or Diſeaſes, that they were induced, by the Experience which they had of being ſo relieved from the Pain of Hunger and Thirſt, by their Food, to make a Trial of thoſe or ſome other Vegetables, and ſuch other Things as Reaſon dictated to them for that Purpoſe, either by taking them internally, or applying them externally, or both, in order to remove their Pains or Sickneſs; and moſt probably they tried many Things, till they found ſuch Things as anſwered their Purpoſe. And how far INFINITE GOODNESS, who had created all Things, and had beneficently endowed various Plants with different *healing Virtues* for thoſe benevolent Uſes, might condeſcend to influence their Choice of thoſe Plants, or other Things, which were endowed with ſuch Virtues, I ſhall not take upon me to determine. But that the firſt Race of Men, or the firſt Inventors of the *healing Art*, were ſo influenced and directed by the DEITY, in their Choice of ſuch Things, was the general received Opinion of the wiſeſt and greateſt Men among the Ancients of moſt Nations, both *Jews*[b] and *Heathens*[c]. And when they found any thing, or Medicine, that relieved their Pain, or took off their Sickneſs, and cured their Diſeaſe, they carefully preſerved the Remembrance and Knowledge of thoſe Things, which they had ſo obtained by Obſervation and Experience, and of their Virtues, and the Methods of uſing them, and communicated that Knowledge to others. Thus they preſerved and communicated by Tradition, ſuch Knowledge as they ſo obtained by Obſervation and Experience, of ſuch Things as had been the Means of removing their Pain and reſtoring their Health, that others might receive the ſame Benefit from them.

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[b] Moſes in Exod. c. 36. v. 12. [c] Plinii Hiſt. Nat. L. 25. C. 2, 3. Deorum immortalium inventioni conſecrata eſt Ars Medica, Cicero Tuſc. Queſt. L. 3. And in another Place he ſays, Homines in nulla re propius ad Deos accedunt quam in Salutem Hominibus dando.

This moſt probably was the very firſt Beginning of their Attempts to cure Diſeaſes, and the very firſt Riſe of the Medical Art; and was then only founded upon a few ſimple Obſervations, and no leſs ſimple Experiments, which they occaſionally or accidentally made in an empirical Manner. For as the Cauſes and Nature of Diſeaſes were in thoſe early Ages entirely unknown, we muſt ſuppoſe that their Obſervations were ſimple and inaccurate, and their Experiments various and uncertain; and that they often made many Trials, and uſed various Methods and Things, eſpecially in ſome Caſes, before they could either remove their Pains or cure their Diſeaſes; and conſequently the Progreſs of their Knowledge of Diſeaſes, and how to treat and cure them, muſt have been very ſlowly obtained; and even after ſeveral Ages had paſſed, it only conſiſted of knowing that ſuch a Plant, or ſuch a thing relieved ſuch a Pain, and ſuch a Medicine removed ſuch a Sickneſs, or cured ſuch a Diſeaſe; without either knowing what the Diſeaſe really was, or how their Medicines cured it, and was truly empirical. However, when they chanced to find any thing that was ſucceſsful, they carefully preſerved what Knowledge they had ſo experimentally acquired of any Remedy, Method, or Medicine ſo diſcovered, and by which they had been at any time ſo relieved or cured, and communicated what Knowledge they had of them to others, that they might receive the ſame Benefit from them.

But as the Inhabitants were few in the firſt Ages, and were diſperſed into different and diſtant Parts of that Quarter of the Earth which was then inhabited, probably to ſeek their Food among the Trees and Plants of the Earth; and as their Diet was ſimple and plain, and conſiſted chiefly of Bread, Milk, and a few ſimple Preparations of ſome mild ſalutiferous Herbs, and the moſt wholſome pleaſant Fruits, and probably ſome Roots, and ſometimes a little animal Food after the general Deluge, and their Drink was generally only pure Water; ſo their Diſeaſes moſt probably were as ſimple and few, and were not ſo frequently ſeen or met with; therefore it required a longer time to gain any tolerable Knowledge of thoſe few Diſeaſes, and a much longer time to gain a ſufficient experimental Knowledge of the Methods of curing them: So that although Men began in the moſt early and moſt ancient Ages to uſe the beſt Means they had, and to apply the beſt Remedies that they knew to relieve themſelves from Pain and Sickneſs, yet the Progreſs of their medical Knowledge, and the Art of curing Diſeaſes, was but very ſlow for many Ages; ſo that many Centuries paſſed before it could be properly called an Art, or before any particular Men profeſſed it as ſuch, as we ſhall ſee.

The moſt ancient Hiſtorians[d] that are come down to our Hands, make the firſt *Kings* and *Princes* of the moſt ancient Nations, to be the firſt Inventors and Practiſers of the medical Art; as, *Bacchus* King of *Aſſyria*, ſuppoſed to be the *Noah* of *Moſes*; *Hammon*, or *Ham*, and his Son *Thoth*, Kings of *Ægypt*; *Zoroaſter*, or *Zaraduſht*, King of *Bactria*; and ſeveral others: But as the Works of ſeveral of theſe ancient Hiſtorians are now loſt, and we only have ſome ſhort Fragments or Quotations from them, and ſome of the others only give us a ſhort Account of ſuch Things as Tradition had brought down to them, eſpecially thoſe relating to the Invention of *Arts* and *Sciences*, we have nothing certain concerning the true Origin of them.

And as the Diet of the People of the firſt Ages was ſimple and plain, and Water their drink, their Diſeaſes were ſimple and few; and therefore were more eaſily cured, either ſolely by the Efforts and Operations of *Nature*, without the Aſſiſtance of *Art*, or when that Aſſiſtance was neceſſary, they were more eaſily carried off, and cured by the Help of a few ſimple Medicines or Applications,

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[d] Manethon, Beroſus, Diodorus Siculus, Herodotus, Ælian, Strabo, Mochus, Sanchoniathon, Heſtiæus, Joſephus, &c.

plications, than they were afterwards, when Diſeaſes were increaſed and more complicated by the various Inventions of Luxury. That the Diet of thoſe firſt Ages was thus ſimple and plain, is allowed by all the moſt ancient Hiſtorians [e] that we have; and this plain Diet is alſo ſaid by *Moſes* [f] to have been the Food of all Mankind before the general Deluge, and probably was the moſt fit for continuing that State of Longevity, which thoſe primitive Generations are ſaid to have attained to in thoſe eaſtern Nations [g]: Which Longevity is generally allowed to be true by moſt, or at leaſt by many of the moſt ancient *Heathen* Hiſtorians [h] and ſome of their Poets [i], whoſe Works (or any Account of them) are come down to our Hands, which ſhews us the Wholſomeneſs of that plain Diet. We are likewiſe told, that the Anceſtors of the *Greeks*, and ſeveral other barbarous Nations, who are ſaid to be deſcended from *Japhet*, and were the firſt People that came into thoſe diſtant Countries, either being too indolent to cultivate the Land, or not bringing with them proper Inſtruments for Agriculture; or what is more probable, they did not meet

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[e] See the Hiſtorians laſt mentioned.

[f] Geneſis, c. 3. v. 18.

[g] Idem, c. 5.

[h] See Joſephus, who ſaw the original Works of ſeveral Hiſtorians, which are now all loſt, except a few Fragments; as, Beroſus, Manethon, Mochus, Sanchoniathon, Heſtiæus, and Jerom of Ægypt, *&c.*

[i] See Heſiod, and ſome Paſſages in Homer, and the other Poets.

with the ſame Fruits in thoſe colder Countries, which they had been accuſtomed to find and eat in the warmer, from whence they came; ſuch as *Dates*, *Figs*, &c. which are much eſteemed and eaten as Food in thoſe Eaſtern warm Countries even to this Day; wherefore they fed upon ſuch Fruits as they could find, and the Country produced: Hence we are told, that the moſt ancient *Grecians*, and ſome other Nations, "Ranged over the Fields and Woods in "ſearch of Food, as the Beaſts did, eating "any wild Herb that they could find, and "ſuch Fruits as the Trees produced of "their own accord[k]. *Ælian* alſo tells us[l], "that the Diet of the firſt Race of Men "differed according to the different Productions of their reſpective Countries; "the *Athenians* lived on *Figs*; the *Argives* "on *Pears*; and the *Arcadians* on *Acorns*." Hence the laſt were called Βαλανηφάγοι ἄνδρες, *Acorn eaters*, by the Oracle[m]. And both *Hippocrates*[n], *Celſus*[o], and *Galen*[p], confirm the Truth of it; and we find that theſe Fruits, with Bread and Milk, and ſome ſimple Preparations of Seeds and mild Herbs, were the plain healthful Food of the People for many Ages after; and we are told that there are ſeveral Nations in the inland Parts of *Africa* now, who chiefly live upon Dates.

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[k] Diodor. Sicul. Bibl. Hiſtor. L. 1. Sec. 8.

[l] Ælian. Hiſt. Var. L. 3. Cap. 39.

[m] Herodot. Clio. Cap. 66.

[n] Hippoc. de Priſca Medicin. p. 9. Ed Foe.

[o] Celſus in Præfat. p. 2.

[p] Galen de Aliment. Facult. L. 2. Cap. 38.

But after Men found out the Method of cultivating the Land, ſowing Corn, planting Vines, *&c.* and of making Wine, and ſeveral other fermented ſpirituous Liquors, and they with various other Inventions of Luxury, were gradually introduced into the Diet of ſeveral Nations, they not only much increaſed thoſe few ſimple Diſeaſes which they had before, but they alſo generated various other new Diſeaſes, which were unknown to the former more temperate Ages, and rendered both of them much more difficult to be cured. And as theſe new Inventions of Luxury continually increaſed, they introduced various other Cuſtoms and Irregularities, which as continually increaſed and multiplied Diſeaſes; ſo that it was neceſſary both to find out new Medicines, and invent new Methods of treating and curing both the Diſeaſes which were known before, and were now become more violent and more difficult to be cured, as well as to cure thoſe new Diſeaſes which were not known before, which rendered the Improvement of medical Knowledge more difficult and ſlow.

And as all Men were entirely ignorant of and unacquainted with the Structure of the human Body, and how the ſeveral

Functions of Life were performed, and conſequently how the Performance of any of thoſe Functions was injured or obſtructed, either by internal or external Cauſes, they conſequently were as much at a loſs to know either what the Nature, the Cauſes, and the Manner of the Production of Diſeaſes truly were; therefore they muſt be no leſs ignorant of the right Methods of treating and curing them: And thoſe who firſt began to practiſe Phyſic, or rather to give a few Medicines for ſome Diſeaſes, had no other Foundation to practiſe upon, and no other Reaſons for their giving them, than as they had found by Experience, that taking, or giving ſuch a Plant, or ſuch a thing prepared in ſuch a manner, or applied in ſuch a Method, relieved ſuch a Pain, removed ſuch a Sickneſs, or cured ſuch a Diſeaſe; juſt as the good old Women have done ever ſince; without either inquiring into the Nature of the Diſeaſe, or knowing its Cauſe, or from whence it proceeded; or how, or why thoſe Medicines they adminiſtred, cured it; and moſt probably, often without knowing what the Diſeaſe really was; as Quacks have done ever ſince, and now do. So that the Practice of Phyſic in thoſe early Ages was entirely empirical, and continued to be ſo not only to the time of *Æſculapius*, but near

700 Years after, to the time of the great *Hippocrates*.

And we find that the Methods uſed to obtain the Knowledge of this ſimple *empirical Practice*, were at firſt as ſimple as the Practice itſelf; only ſimple Experience, without accurate Obſervation and inductive Reaſoning, which laſt were firſt introduced into Practice by *Hippocrates*. Although we muſt confeſs, that the Hiſtory of the firſt Riſe of that empirical Practice is very much in the dark, as we only have a few Fragments and Quotations from thoſe ancient Hiſtorians [q] by ſome other ancient Hiſtorians [r] ſince them: Who tell us, that the medical Art was firſt invented by Thoth in *Ægypt* [s], who was the Tat or Taautus of the *Æthiopians*, the Hermees Tresmagistus of the *Greeks*, the Mercury of the *Latins*, and the Pathrusim of *Moſes* [t], the Grandſon of *Noah* and Son of *Ham*; others ſay he was *Ham* [u]: And he is ſaid to have written 42 Books; ſix of which he wrote for the Uſe of the *Paſtophores*, a ſort of *Prieſts*, who alſo practiſed

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[q] Manethon, Beroſus, Mochus, Sanchoniathon, Heſtiæus, and Jerom of Ægypt, and ſome others, whoſe Works were probably all conſumed at the Burning of the famous Alexandrian Library, by the Saracen General Amron Ebnol Aas, A. D. 642. Abulpharag. Hiſt. Dynaſt. p. 114.

[r] Diodor. Sicul. Strabo, Ælian, Herodotus, &c.

[s] Dr. Le Clerc Hiſt. de la Medicin. p. 8, 12.

[t] Dr. Bedford's Script. Chronol. Shuckford's Connect.

[u] Dr. Le Clerc, Ibidem, p. 13.

Phyſic in *Ægypt*; as *Thoth* was the *Ægyptian Æſculapius*, and theſe his Prieſts. "*The firſt Book treated on the Structure* "*of the Body; the ſecond on Diſeaſes; the* "*third on neceſſary Inſtruments; the fourth* "*on Medicines; the fifth on the Diſeaſes of* "*the Eyes; and the ſixth on Womens* "*Diſeaſes* [w]."

Theſe were the firſt Books, and this the firſt mention we have of Writing; and it is ſuppoſed that they were ingraved upon Tiles, as neither Paper nor Parchment were then invented, nor till many Years after; though ſome have ſuppoſed that they were written upon Skins, though the Method of making them into Parchment was not found out till many Years after by King *Pergamus*: But it is moſt probable that they were ingraved upon Tiles in Hieroglyphicks, or ſacred Characters, as *Euſebius* tells us from *Manethon*, that *Thoth* alſo erected Columns in *Ægypt*, on which he ingraved in ſacred Characters the Doctrine which he taught [x]. And the ſame Hiſtorians alſo ſay the ſame of *Oſiris* and *Iſis*, the King and Queen of *Ægypt*, to whom *Thoth* was Secretary: But theſe Accounts are ſo uncertain, or fabulous, that we cannot depend upon nor draw any Concluſions from them. Though it is probable, that the moſt ancient *Ægyptians* were the firſt that invented *Medicines*, and firſt cured ſome Diſeaſes, and kept an Account or Record of ſuch Diſeaſes as they cured, and of the Medicines with which they cured them; ſo that both the *medical Art*, and the *Art of Writing*, as well as moſt of the other Sciences, were firſt invented in *Ægypt*, And in order that they might further improve their Knowledge in the Art of curing Diſeaſes, the *Ægyptians* firſt, and then the ancient *Chaldeans*, and ſome other eaſtern Nations, introduced the Cuſtom of bringing their ſick and diſeaſed People out of their Houſes, and placing them in the moſt convenient manner in their moſt public Streets and Highways, that thoſe who paſſed by might communicate to them the Methods and Medicines by which either they, or any of their Acquaintance, had at any time been cured of ſuch a Diſeaſe as they ſaw any of the Sick placed there were afflicted with [y].

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[w] Dr. Le Clerc. Ibidem, p. 13.

[x] Euſeb. Prepar. Evang. Dr. Le Clerc. Hiſt. de la Med. p. 13.

And *Herodotus* tells us [z], that the ancient *Babilonians* obliged themſelves by a *Law* to place their Sick in the ſame manner, both that they might thereby obtain a Cure for their Diſeaſe, and that they might improve their medicinal Knowledge by ſuch Experience, and he calls it νόμός σοφότατός, a moſt prudent Law. We alſo find that the ſame Cuſtom was practiſed in *Paleſtine*, down as low as the Beginning of the chriſtian Æra*. But whether this Cuſtom was uſed in *Greece*, or not, we are not informed; however, we find that when any extraordinary Cure was performed in any remarkable Diſeaſe, eſpecially in thoſe Parts of *Greece* near *Coos* or *Epidaurus*, they uſually put up a Table againſt the Walls of the Temple of *Æſculapius*, who was worſhipped as a Deity at both thoſe Places by the ſuperſtitious *Greeks*, for inventing the Art of curing Diſeaſes; upon which Tables they deſcribed the Diſeaſe, and the Method or Medicines with which it was cured; that thoſe who came there to ſeek for a Cure might be informed, either by reading them, or by the Prieſts, how to cure themſelves, or their Friends, if any of them had the Misfortune to be afflicted with any Diſeaſe which had been cured, and was deſcribed and recorded there. And this Cuſtom is ſaid to have been practiſed in *Greece*, from the time of *Æſculapius* down to the Days of *Hippocrates*, who was the eighteenth in a lineal Deſcent from him by his Father, and the nineteenth from *Hercules* by his Mother [a]; a Space of about ſeven hundred Years; and *Hippocrates* lived about four hundred and fifty Years before *Chriſt.*

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[y] Diodor. Siculus Bibl. Hiſt. L. 1. Sec. 3. Ælian. Hiſt. Var. L. 3. Cap. 39. Strabo Geogr. L. 14. p. 972.

[z] Herod. Bibl. Hiſt. L. 1. Cap. 197. Clio.

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* New Teſt.

[a] Soranus ſays the 19th from the one, and the 20th from the other. Hippocr. Operat. Fœtii Ed. p. 1297.

Although both *Celſus*[b] and *Galen* tell us[c], "that *Æſculapius* was the firſt that reſcued "*Phyſic* from the Hands of the Vulgar, "and rejecting the ſuperſtitious and inſig-"nificant Part, adhered to the ſolid and "uſeful Part." It is true he may be ſaid to have done the firſt, but yet he did not diveſt it entirely of the ſuperſtitious Part, ſince we find that Amulets, Charms, and Incantations, and ſuch fooliſh Practices, ſtill continued to be in uſe, both in his Time and in the Time of his Succeſſors, ſo long as the Practice of it was in the Hands of his *Prieſts*, even to the time of *Hippocrates*, who wiſely rejected all ſuch inſignificant and ſuperſtitious Practices. However we may ſay, that *Æſculapius* was the firſt that introduced the *Medicina Clinica*, or the Practice of viſiting the Sick in their Beds; and the *Medicina Gymnaſtica* alſo, or preſcribing the Uſe of Exerciſe in the Cure of Diſeaſes. And firſt began to make Obſervations on Diſeaſes, and their Symptoms, and to diſtinguiſh them from each other by their peculiar Symptoms; alſo to obſerve what Medicines he found to be the moſt efficacious in curing each of them; all which were conſiderable Improvements in the medical Art at that Time; for which, and the great Skill that *he* ſhewed in curing the Sick and Wounded in the *Argonautic* Expedition, he was deified by the idolatrous *Greeks*, according to the Faſhion of thoſe Times. And his Sons *Podalirius* and *Machaon* gained great Reputation at the Siege of *Troy*, about 50 Years after, and about 1100 Years before the Chriſtian Æra; but their Practice at that Time ſeems to have been chiefly employed in Surgery.

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[b] Celſus in Præfat. p. 1, 2.

[c] Galen in Medic. L. 1.

But, although *Æſculapius* is ſaid to have been the firſt that preſcribed Exerciſe [d] of different Kinds to his Patients in different Diſeaſes, yet it muſt be allowed that *Herodicus*, who was one of the Maſters of *Hippocrates*, greatly improved and eſtabliſhed it as an *Art* to preſerve and reſtore Health, under certain Rules, which are now all loſt: Some ſay that *he*, but others ſay that it was *Prodicus* [e], that carried this Practice of Exerciſe much too far, and that to the Prejudice of the Sick, as he is ſaid to have preſcribed it in the Cure of Fevers, which it muſt increaſe, and did much hurt, and for which *Hippocrates* blames him much [f].

The learned Dr. *D. Le Clerc* has, with much Labour, ingeniouſly collected an Account of many other eminent Men among the *Ancients*, both *Kings*, *Princes*, and

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[d] Galen de Sanitat. Tuend. Lib. 1. cap. 8.

[e] Hippoc. Epidem. Lib. 6. if that Book be his; ſome ſuppoſe it was written by his Son *Theſſalus*, who was acquainted with *Prodicus*.

[f] Idem, Ibidem.

Philoſophers, who are ſaid either to have invented or conſiderably improved the *medical Art*, many Years, or Ages before the *Grecian Æſculapius*; as *Oſiris* and *Iſis* his Queen, *Horus* or *Apollo*, *Athotis* and *Toſorthos* Kings of *Ægypt*, *Solomon* King of *Iſrael*, *Zoroaſter* King of *Bactria*, and *Cinningo* and *Hoamti* Kings of *China*; the *Druids* in the Weſt-part, and the *Gymnoſophiſtæ* in the Eaſtern-parts of the World, who are all ſaid to have been the Inventors or Improvers of Phyſic, and many others; as *Chiron Centaur*, *Hercules*, *Uliſſes*, and many more before the time of *Æſculapius*; and after him *Thales*, *Pythagoras*, *Heraclitus*, *Democrites*, *Plato*, *Empedocles*, *Pauſanias*, *Epicharmes*, *Timeus*, *Acron*, *Apollonides*, *Antigenes*, and *Herodicus*, with ſeveral more, who lived after *Æſculapius* and before *Hippocrates*, who are ſaid to have ſtudied and improved the medical Art; but as all the Accounts that we have of the former of them, are ſo uncertain and fabulous, and the others ſo ſhort and imperfect, I ſhall paſs over them, and refer the curious Reader to the learned and ingenious Hiſtory of Dr. *Le Clerc* *, ſince we have not any of their medical Works that are come to our Hands.

It has been ſaid, that *Pythagoras* was the firſt that introduced *Philoſophy* into the *Theory*

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* Hiſtoire de la Medicine, a p. 1. ad p. 112.

Theory of Phyſic *: But if he did, as he neither practiſed, nor has left us any medicinal Treatiſe in either the Theory or Practice of it, we do not certainly know what his Sentiments were, or how far the *Theory* of Medicine, which he formed, was influenced by his Philoſophy: Thó' from what *Celſus* ſays, both *he*, *Empedocles*, and *Democritus*, did ſometimes apply themſelves to the *Medendi ſcientia* †; but we have none of their medical Works, from which we can form any Judgment what their Sentiments either in the Theory or Practice of Phyſic truly were. *He* lived about eighty Years before *Hippocrates*, and it is very probable that ſome of his philoſophical Principles, or at leaſt thoſe of his Scholars, were ſoon after introduced into the medical Art [g]: But the *Æſculapian* Family ſeem to have purſued the Method of making Obſervations on Diſeaſes, and their Symptoms, and adminiſtring ſuch Medicines as Experience had inſtructed them to give, and they had found to be ſucceſsful in the empirical Method of Practice, without any philoſophical Reaſoning, or much *Theory*, till *Hippocrates*'s time.

That this was the State of Phyſic from its firſt Riſe, or at leaſt from the Days of

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* Celſus de Medicina Præfat. p. 2. † Idem. Ibid.

[g] Vide Dr. Le Clerc. Hiſt. de la Med. Part I. Lib. 2. cap. 4, 6. and Clifton's State of Phyſick, p. 8.

Æſculapius, down to the time of *Hippocrates*, may be collected from Hiſtory [h], and from his own Words [i]. Let us therefore inquire how, and by what Methods that *Father of Phyſic* did ſo much improve that *empirical Practice* of *his* Anceſtors and Predeceſſors, ſo as to bring it in ſo ſhort a Space of Time, as in one Age to be a real *medical Art*, and to be able to eſtabliſh it as ſuch; and then let us inquire by what means it has been further improved by other Phyſicians ſince his Time to this. Alſo let us inquire what other Methods have at any time been taken by any Phyſicians ſince, which have any way hindered the Progreſs of its Improvement, that we may hereafter carefully avoid falling into the ſame, and as diligently purſue the other, and ſtill further improve that moſt *ancient Science*.

We find then, that this FATHER AND PRINCE OF PHYSICIANS, being a Man of great Penetration and ſound Judgment, and endowed with much Learning, and all the Qualifications and Abilities neceſſary to improve that *Art*, which *he* applied with indefatigable Induſtry, to carefully obſerving Diſeaſes, and all their Symptoms, and their Progreſs and Effects; and then to diligently collecting every thing that was any way uſeful or inſtructing in the *healing Art*, from the above mentioned Tables that were placed in the Temples of *Æſculapius* at *Coos* and *Epidaurus*[k], or from the Accounts and Obſervations which his Anceſtors had made and left behind them to him: From all theſe he collected every thing that was uſeful, either to the Means of truly knowing thoſe Diſeaſes that were deſcribed in them, or the Symptoms which diſtinguiſhed them from each other; and alſo what related to the Methods which had been ſucceſsful in curing them, or were uſeful in predicting the Events and Conſequences of them. *He* alſo accurately obſerved all the material Changes of the Air[l], and the different Points of the Heavens the Winds came from, and the Changes of the Weather that attended them; and even took notice of the riſing of ſeveral of the celeſtial Conſtellations, as of *Arcturus*, the *Pleiades*[m], *&c.* not with any ſuperſtitious or imaginary Notions of their having any Influence over the human Body in the Production of Diſeaſes, as ſome of the ancient and more modern Aſtrologers imagined, as he was free from all ſuch Superſtition[n]; but to denote the different Seaſons of the Year, and the Changes of the Weather, which

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[h] Le Clerc. Hiſt. de la Medicine.

[i] Hippoc. de Priſca Medicina.

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[k] Vide Coacæ prænotio. Lib. Prænotion. 1. Prædict. 11.

[l] Hippoc. de Morb. Epidem. Lib. 1, 2, 3, &c. et de Aere, Aquis et Locis.

[m] Vide Lib. citat. et in Aphoriſm. Sec. 3, 4.

[n] De Morbo Sacro, p. 301. ed. Fœtii. De Morb. Vulgarib. et in Aphoriſ. Sec. 3, 4, &c.

uſually attended thoſe Seaſons, and the Influence which thoſe Changes of the Weather had on the human Body, either in the Production of, or in the Changes that happened in the then reigning epidemical or other Diſeaſes. *He* likewiſe obſerved [o] the different Natures or Qualities of the Waters of different Springs or Wells, and the different Nature of the Soil from whence they did ariſe, and even the different Points of the Heavens towards which they did riſe, and the Effects which the Riſing-ſun had on them; and judiciouſly obſerved the Situations of Cities, Towns, and Places, as they were more or leſs healthfully ſituated; and as carefully obſerved how thoſe different Situations either cauſed or any way influenced the Production of any endemial or other Diſeaſes, and what Diſeaſes they did produce [p]: And from all theſe *he* was enabled to judge what Situation was bad or injurious to its Inhabitants, and which were, or might any way contribute to the Preſervation, or the Reſtoration of the Health of the Inhabitants, or others; alſo what Diſeaſes were endemial to them.

And by accurately obſerving all thoſe Diſeaſes that were epidemical in the *Grecian* Iſlands, where he lived, or came to viſit the Sick, and diligently obſerving and diſtinguiſhing all their different Symptoms, and how they differed, both in different Years and in different Seaſons of the ſame Years, *he* was not only enabled to know, and clearly diſtinguiſh all the different epidemical Diſeaſes from each other, and to give each of them their moſt proper Names, but to deſcribe them and their peculiar pathognomonic and diagnoſtic Symptoms [q], ſo that they may be known by Phyſicians when ſeen: Alſo in the ſame manner, and by the ſame Method of carefully obſerving, he diſcovered and accurately diſtinguiſhed and deſcribed all malignant and peſtilential Fevers, and inveſtigated their different procatarctic Cauſes [r] which produced them. Thus by continued accurate Obſervations, and juſt inductive Reaſoning, *he* inveſtigated their Cauſes, and acquired a true Knowledge of the Natures and the Manner of the Production of all thoſe Diſeaſes; and was the firſt that thus carefully diſtinguiſhed them by their peculiar diagnoſtic Symptoms, and *he* ſo accurately deſcribed them, that they are very well known by all real Phyſicians, when they meet with them in their Practice, even to this Day.

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[o] De Aere, Aquis et Locis, et in Epidem. Ibidem.

[p] Idem.

He not only did this, but what is as much uſeful and advantageous to his Followers, he did by diligently watching and carefully

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[q] Vide de Morb. Vulgarib.

[r] De Aere, Aquis et Loc. et de Morb. Epidem. in variis locis.

obſerving all the Motions and Actions of NATURE *, and what *ſhe* did, or endeavoured to do, and thoſe ſalutiferous Effects which *ſhe* really did frequently produce; *he* wiſely judged, and clearly ſaw, that *ſhe* did thereby indicate to the Phyſician what he ſhould, or ought to do, in each of thoſe Diſeaſes, in order to aſſiſt *Nature*, agreeably to *her* Indications and Intentions, in the moſt effectual manner to carry off and cure all thoſe Diſeaſes; and *he* was thus inſtructed by *Nature* how to *cure Diſeaſes!* It was by thus diligently obſerving and accurately diſtinguiſhing all the various Symptoms, that *he* diſcovered the different Natures, Tendencies, and Diſpoſitions of all the different Kinds of *Fevers*, and of all other Diſeaſes, both acute and chronical: And by as diligently obſerving the Progreſs of each of them, and the various Changes which were produced in them, and the different Attempts and Endeavours which *Nature* made in each of them, to carry off the *morbid Matter*, and diſcharge the malignant Cauſe which produced them, and by thus carefully obſerving, he ſaw how and by what Evacuations *ſhe* did at the laſt carry both them and their malignant Cauſes intirely out of the Body: Thus he was enabled both to inveſtigate their Cauſes, and the right Methods of treating and curing them, by the Aſſiſtance of juſt inductive Reaſoning; the Truth of which he always confirmed by repeated Obſervations and Experience. And thus *he* was enabled to form all thoſe judicious Rules, and thoſe wiſe and excellent Methods of treating and curing Diſeaſes, which he has left us in his valuable Works, tho' he has not often given us the Names, or the Form of his Preſcriptions or Medicines, but how and when we ſhould give them that will vomit, purge, &c. And if we inquire how he made all theſe great Diſcoveries and Improvements, in the *medical Art*, and how *he* could ſo inveſtigate the Cauſes of Diſeaſes, without knowing more of the Structure of the human Body, the Uſe, Office, and Action of its various Parts, and the animal Oeconomy, better than they really did know at that time; we find that *he* did this chiefly, if not ſolely, by making accurate Obſervations on Diſeaſes, their Symptoms, Progreſs, and Effects, and on the Variations in the Air, Seaſons, *&c.* And by obſerving what *Nature* did, or indicated to be done, and then by ſtrictly following her Indications, and by reaſoning from thoſe certainly known Facts, *he* both inveſtigated the true Cauſes of Diſeaſes, and diſcovered a truly rational and judicious Method of treating and curing them; and yet *he* did this, and proceeded much further in thoſe *his* Diſcoveries, and made much greater Improvements in the *healing Art*, than we can almoſt think it was poſſible for the human Mind to proceed, without the Knowledge of the *Circulation of the Blood*, and the *Laws of Motion of Matter*, and the *Laws of Motion of Fire*, and a more perfect Knowledge of the *animal Oeconomy*, than they in that Age really had. Some Phyſicians may probably think that I here make that great *Prince of Phyſicians* diſcover and know a great deal more than

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* So many different Ideas or Meanings have been connected to the Word ΦΥΣΙΣ, *Nature*, by Phyſicians and Philoſophers, that an ingenious Gentleman of much Leiſure, ſaid he had collected above ſixty ſomewhat different Meanings it has been uſed to convey by different Authors. But by the Word NATURE I ſhall here always mean ſome, or all thoſe internal Motions and Actions in the Body, which are not influenced or directed by the Will; as the periſtaltic Motion of the Stomach, Inteſtines, and chiliferous Ducts, the Motion of the Heart and Arteries, and the Circulation of the Fluids, and the Action of Reſpiration; by which Chyle is prepared, carried into, mixed with, and changed into Blood; the Secretion of the Fluids, and Application of nutritious Juices; the Excretion of the excrementitious Fluids, and the Diſcharge of them, and of any other offenſive morbid Matter with them, is performed without the Influence and Power of the Will.

Or in other Words, all thoſe internal Motions and Actions of and in the Body, by which all the Functions of Life are performed, and by which the Cauſes of Diſeaſes are carried off and caſt out of the Body, without the Command of the Will or Mind.

And this is the Senſe or Meaning which *Hippocrates* uſed the Word Φύσις in; altho' the Circulation of the Blood, and how the different Functions of Life were performed, were not then known: Yet he ſays, Φύσις εξαρκέει πᾶντα πᾶσιν, Natura omnia omnibus ſufficit, Lib. de Alimento, p. 38. And in Lib. de Morbis Vulgar. L. 6. Sec. 5. §. 2. he ſays, Ἀπαίδευτος ἡ φύσις εοῦσα καὶ οὐ μαθοῦσα τα δέοντα ποίεει, A nullo quidem edocta Natura, citraque diſciplinam, ea quæ conveniunt efficit. And in another Place he calls *Nature*, *the Aggregate of all Things which concur to perfect Health.*

he really did; but whoever will take the Pains to read over his Works, and examine them with as much Care and Attention as *he* did Diſeaſes and *Nature*, will think thus of *him*, and will find that *he* did not only make theſe Improvements in the Method of knowing Diſeaſes, and inveſtigating their Cauſes, and laying down ſuch judicious Rules, and ſuch rational and excellent Methods of treating and curing them, as are found to be true, even to this very Day; but that *he* alſo made many other great Improvements in the ſeveral other Branches of the medical Art, as we ſhall ſee.

And although *Pythagoras*, *Heraclitus*, and *Democritus*, and ſome other Philoſophers of that Age, had made ſome Branches of the medical Art their Study, and had endeavoured to introduce the Principles of their Philoſophy into that Art, yet *Hippocrates*, who ſeems to have been well acquainted with their Philoſophy, ſeems to have rejected it, and only reſerved ſo much of their philoſophical Principles, as enabled *him* to reaſon more juſtly and truly, in inveſtigating the Cauſes and diſcovering the Methods of curing Diſeaſes [a]. Thus he firſt wiſely joined ſo much of Philoſophy to Phyſic, as was uſeful to improve it: And ſays [b], "*We ought to join Philoſophy with* "*Phyſic*,

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[a] Hippoc. de Morb. Mulier. L. 1. p. 613. ed. Fœtii, Lib. de Arte, et Natura Homin.

[b] Hip. de Decenti Habit. p. 23. Ed. F. et Galen de Uſu Partium.

"*Phyſic, and Phyſic with Philoſophy, for a* "*Phyſician that is a Philoſopher is like a* "*God.*" By which he ſeems to mean no more, than that true Philoſophy enables Men to reaſon juſtly and truly, and thereby to diſcover the Reaſon and Cauſe of Things; and being joined to Phyſic, and properly uſed, enables Phyſicians to diſcover the Cauſes of Diſeaſes, and the right Methods of curing them, by the Aſſiſtance of juſt Reaſoning; the doing which, and reſtoring Health to thoſe that were ſuppoſed to be dying, was in thoſe Days eſteemed a godlike Action, as ſo wiſe and good a Man as he was could mean no more: And it is generally allowed, that *he* firſt introduced the Method of juſt Reaſoning from real *Facts*, (not Hypotheſes) into the *medical Art*, and joined that *Reaſoning to Obſervation and Experience*.

It was by Obſervation and Reaſoning that he ſaw that the human Body, from its firſt Rudiments to its Diſſolution, was ſupported by and compoſed of Food, and conſequently the *Nature of the Diet of Men* was of the greateſt Importance, both to the Continuation, Preſervation, and the Reſtoration of their Health; as an injurious and wrong Method of *Diet* might be deſtructive to both Health and Life, and that a ſuitable and right Method of *Diet* might greatly contribute to the Reſtoration of the one, and the

Preſervation of the other; but more eſpecially to thoſe who are afflicted with *Diſeaſes*, either acute or chronical. And as *Hippocrates* ſays, that he found “ *that the Ancients had written nothing concerning Diet worth taking notice of*[c]. He therefore ſaw the Neceſſity there was for improving and regulating the *Diet* of the *Sick*, ſuitably to the Nature of the Diſeaſe; that he ſuppoſed it was one Cauſe of Mens ſtudying the *medical Art*, and ſays[d], “ *One Cauſe which made it neceſſary to ſtudy the Art of reſtoring loſt Health, was the great Difference to be obſerved between the Diet of the Healthy and that of the Sick.*” And as the *Ancients* had wrote nothing on that Subject, *he* therefore compoſed that excellent and judicious Treatiſe *de Victus Ratione in Morbis Acutis*. The Rules and Directions of which have been found to be ſo judicious and reaſonable, and ſo well adapted to the different Times and Degrees of *Fevers*, that they have been generally followed by the Learned and Judicious in all Ages ſince to this Day, without any material Alterations or Improvements being made therein.

It was by carefully obſerving all the various Changes of the Air and the Weather, and Seaſons, and as accurately obſerving all thoſe Diſeaſes which either accompanied or followed thoſe different Changes, that *he* was enabled, by juſt inductive Reaſoning, to inveſtigate and diſcover the various different Cauſes of the ſeveral different Kinds of epidemical Fevers, and other Diſeaſes. And by the ſame Method of carefully obſerving and accurately diſtinguiſhing all the different Symptoms which attended each of thoſe different *Fevers* and Diſeaſes, that *he* was enabled to clearly diſtinguiſh all thoſe dfferent Fevers and Diſeaſes from each other, by their peculiar diagnoſtic and pathognomonic Symptoms: And then by as carefully obſerving the Progreſs, Changes, and the different Times of each of thoſe Fevers continuing and coming to their ἀκμή καί ϖάρακμή, their Height and their Declenſion, and coming to their Κρίσι, *Criſis*, and all the different Symptoms which attended each of them, in each of thoſe Changes and Times, and the Conſequences and Effects which attended or followed each of them, he was enabled both to diſtinguiſh each of thoſe *Fevers* and Diſeaſes from each other, by their pathognomonic Symptoms, and to give to each of them its moſt proper Name (if it was not ſo named before) and by as accurately obſerving, at the ſame time, what *Nature* did, how ſhe proceeded, what Attempts and Efforts ſhe made, in order to caſt the morbid Matter, which cauſed the Diſeaſe, out of the Body; and laſtly, by carefully obſerving how *Nature* brought on thoſe critical Evacuations, by which that morbid Matter and the Diſeaſe were carried off, and the Sick were reſtored to Health again; when ſhe proceeded and acted in the moſt ſalutiferous manner; as alſo when and how ſhe failed in producing thoſe ſalutiferous Effects.

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[c] Ἀτὰρ ȣ̓δὲ περὶ τῆς δίαιτης οἱ ἀρχαιοι ξυνέγραψάν ȣ̓δὲν ἄξιον λογȣ. Hip. de Vict. Rat. in Morb. Acut.

[d] Hippocr. de Priſca Medicina, p. 9. Edit. Fœtii.

Thus he was inſtructed by Obſervation, how to know Diſeaſes; and by *Nature* and juſt *inductive Reaſoning*, comformably to *her* Motions and Actions, and what *he* really ſaw *ſhe* actually did, both to know what *Nature* indicated to him to do, and how *he* ſhould aſſiſt *her* agreeably to *her* Intentions and Endeavours, to carry off the Cauſes of Diſeaſes, and cure them in the moſt ſafe, effectual, and ſalutiferous Manner, when and where it could be done.

And by the ſame Method of carefully obſerving what Symptoms and Effects were produced by *Nature*, in all the different Kinds of *Fevers*, as well as in other *Diſeaſes*, both when ſhe acted in the beſt and moſt ſalutiferous Manner, and carried off the Diſeaſe moſt effectually, and reſtored the Sick to perfect Health again; and what Symptoms were produced, and attended, when ſhe failed in producing thoſe good Effects, and when the Diſeaſe carried off the Patient: He was thus truly inſtructed by *Nature,* not only to predict the Recovery, or the Death of his Patients, but alſo how and when *he* ſhould aſſiſt *Nature* to carry off and cure thoſe Diſeaſes: So that we may truly ſay, *he* was always inſtructed by *Nature,* who is in all Caſes and at all Times the moſt ſafe, moſt certain, and ſure Guide to the judicious Phyſician; if he has but the Diligence to obſerve, the Penetration to ſee, and the Judgment to know how, and the Honeſty to follow and aſſiſt *her* right.

It is well known that there have been, and probably now are ſome Phyſicians, who are pleaſed to ſay that HIPPOCRATES had no *Theory of Phyſic,* or did not *reaſon upon Diſeaſes,* in order to inveſtigate their Cauſes and Manner of Production, or to find the right Methods of curing them; but altogether depended upon Obſervation and Experience, as the *Empiricks* did: But let ſuch Phyſicians think or ſay what they pleaſe, whoever attentively reads *his* Works muſt allow that *he* had a *Theory,* and that it was a juſt and true *Theory* too, which was both founded upon and always conformable to *Nature,* and her Laws or Manner of acting, which he therefore calls ΚΑΤΑ ΦΥΣΙΝ ΘΕΩΡΕΩΝ, theorizing according to Nature[e]; and not reaſoning from imaginary Hypotheſes, as too many ingenious and learned Men have done ſince his Time.

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[e] Τοὺς δέ ἀκαλασάτους τῶν πυρετῶν ἐᾶν μέχρις ἄν καλασῶσιν, ὁκόταν δέ ςῶσιν ἀπαντῆσαι διαίτη καί θεραπείη τή προσήκουση, ΚΑΤΑ ΦΥΣΙΝ ΘΕΩΡΕΩΝ. Hip. de Vict. Rat. in Morb. Acut.

That *Hippocrates* had a *Theory*, and did *reaſon*, and that very juſtly too, both in inveſtigating the Cauſes of Diſeaſes, not only thoſe which are endemial, epidemical, and contagious, or peſtilential, but others alſo, is too evident from various Places in his Works to be denied; although *he* has not ſo often favoured us with Specimens of his *Theory*, nor left us many Examples of his Method of Reaſoning, either in *his* inveſtigating the Cauſes of Diſeaſes, or in his Method of diſcovering the moſt rational Methods of Dieting the Sick, nor yet in diſcovering the right Methods of treating and curing thoſe Diſeaſes; nor in drawing thoſe Inductions and Concluſions, by which *he* predicted and prognoſticated the Conſequences and Effects of Diſeaſes before they came to paſs; but in general has only left us the Inductions and Concluſions which he drew from his Obſervations on the Air, on Diſeaſes, and on *Nature*, and the Operations and Effects which ſhe produced; yet it is very evident from thoſe Deductions and Concluſions, which he has drawn from them, that he both had a *Theory*, and did *reaſon*, and that very juſtly and truly[f]: For it

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[f] Vide de Morbis Vulgaribus, et de Priſca Medicina, p. 13.

it was by carefully obſerving the Air, Water, and the different Situations of Places, and his obſerving the Diſeaſes which the Inhabitants of thoſe Places were frequently or the moſt ſubject to, and by reaſoning truly from the firſt to the Production of the laſt, that he diſcovered that certain Diſeaſes were Endemial to the Inhabitants of thoſe or ſuch Places [g]. And by obſerving the vorious Changes of the Air and Weather, and the Diſeaſes which attended, or ſoon followed thoſe Changes, and ſpread themſelves among the People, and reigned for ſome time, till ſome other Changes of the Air carried off or altered thoſe Diſeaſes; and by reaſoning from the immediate Effects which they had upon the human Body, to their final Effects, he diſcovered that thoſe Diſeaſes were at thoſe Times *Epidemical* [h]: And by obſerving that contagious and peſtilential Diſeaſes [i] did not ſolely proceed from thoſe Changes of the Air, which the other epidemical Diſeaſes did, but from ſome other Αἰτίη ἄδελος hidden Cauſe in the Air, which he judiciouſly called Μιάσματα, *Miaſmata*, which were conveyed by the Air from the Sick, or from the Bodies of thoſe who were dead, and ſo ſpread and infected thoſe that were well before; which he diſcovered by obſerving the different

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[g] De Aere, Aquis et Locis.

[h] De Morb. Vulg. vel Epidem.

[i] Vide Theſſal. Legat. Oration. & Epiſtol.

Natures and Symptoms which attended them, and did not attend the other epidemical Diſeaſes; and alſo by obſerving them to be contagious and infectious to others, and their being ſpread to diſtant Places and Countries, that they proceeded from ſome *infectious Miaſmata,* which were either exhaled from the Sick and dead Bodies, or were conveyed by the Air to the Sound, and infected them. Thus he inveſtigated the Cauſe of thoſe Diſeaſes by juſt *inductive Reaſoning* [k].

Alſo by accurately obſerving the Changes which were produced in the Bodies of the Sick, and in their Diſeaſes, after their uſing or taking different Kinds of *Diet, he* diſcovered by reaſoning truly, that ſome Sorts of *Diet* were greatly prejudicial, and ſome others were as beneficial to the *Sick,* and to the Sound alſo; he therefore wrote thoſe excellent Treatiſes *de Alimento, de ſalubri Victus ratione, de Victus ratione,* Lib. 3. and *de Victus ratione in Morbis Acutis*; in which *he* has given us ſeveral ſhort Touches of his Method of Reaſoning, by which we may clearly ſee that *he reaſoned* very juſtly [l], and is the firſt that wrote upon this Subject: I know that ſome of theſe Books are ſuppoſed and ſaid to be written by his Scholar and Son-in-law *Polybus* [m].

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[k] De Morb. Epidem. vel Vulgar. L. 3. Sec. 3. p. 1081, &c. ed. Fæt.

[l] Vide de Victus ratione in Morbis Acut. et in Libris ſupra citat.

[m] Vide Dr. Le Clerc. Hiſt. de la Med.

That *Hippocrates* had a true *Theory*, and *reaſoned* very juſtly, alſo clearly appears from many other Parts of his Works, ſince *he* could not draw all thoſe juſt Inductions and true Conſequences which he has done in his Books of *Prænotionum* Lib. 1. *Prædictorum* Lib. 2. *Coacæ Prænotiones, de Judicationibus, de Diebus Judicatoriis*, and in his Book *de Aere, Aquis et Locis*, as alſo in the VII *Books on epidemical Diſeaſes*, and ſome others, which he has left us, nor *his Aphoriſms*, without *reaſoning juſty* and *truly*, as thoſe Inductions which *he* has drawn and left us in them, remain in general to be certain *Truths* even to this Day, and could not be drawn but by the Means of juſt inductive Reaſoning, and that *Reaſoning* from *Obſervations, Nature*, and real *Facts*, in order to inveſtigate the Cauſes of Diſeaſes, and the right Method of treating and curing them, is *a true Theory*.

And this ſeems to have been the Sentiments of *Galen*, who very well underſtood *his* Works, and judiciouſly diſtinguiſhes the *rational Theory* and *Practice* of HIPPOCRATES, from thoſe of the Empiricks, Pneumaticks, and Methodiſts, by the Name ΔΟΓΜΑΤΙΚΟΣ[n] rational, becauſe it was founded upon *Obſervation* and *Nature* by juſt *inductive Reaſoning*. And it is much wiſhed that *Galen* had as ſtrictly followed and adhered to that *rational Theory* of *Hippocrates,* as he generally did to *his Practice*; and had not fallen into that Method of forming imaginary *philoſophical Hypotheſes,* on which he founded his own new *Theory,* which led both him and many other learned and ingenious Phyſicians into various Errors, and carried them from purſuing thoſe Methods by which they might have made many uſeful Diſcoveries and great Improvements in the *medical Art.*

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[n] *Eί δέ δίά λόγου τινός ἤ μεθόδου, λογικός τεκάι μεθοδικός καί* ΔΟΓΜΑΤΙΚΟΣ, Galen de Method. Medend. Lib. 3.

And as *Hippocrates* ſo ſtrongly recommended the Study of *Geometry* and *Arithmetick* to his Son *Theſſalus,* as it would enable or teach *him* to reaſon right, and ſays [o], "*Verum etiam mentem acutiorem et longe* "*ſplendidiorem ad fructum eorum omnium quæ* "*in Arte Medica uſui ſunt, conſequendum* "*reddet—In re Medica ſubminiſtrari, facilem* "*tibi abſque errore notitiam præbeat.*" May we not conclude that *he* reaſoned *geometrically* himſelf, or in a geometrical manner from Obſervations and certain *Data,* tho' he might neither make uſe of geometrical Lines, or numerical Figures, as the Subject did not require either of them: As he had ſo accurately obſerved the Changes of the Air, *&c.* and all the Symptoms which attended the various epidemical Fevers, and

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[o] In Epiſt. Hippocratis ad Theſſalum Filium, p. 1288. ed. Fœtii.

other Diſeaſes, and what occurred and paſſed in each of them; and had as carefully obſerved what *Nature* did, how ſhe proceeded, and what Effects *ſhe* produced in each of them; and by ſo accurately obſerving, *he* found that *Nature* generally did at the laſt (or at leaſt always attempted to) caſt that *morbid Matter* which cauſed the *Fever* out of the Body, by ſome of the excretory Paſſages, and that the *Fever* and its *Cauſe* were carried off by that Diſcharge, and the Sick were reſtored to Health by ſuch critical Evacuations, when they were perfect and complete: *He* therefore judiciouſly called that a Κρίσις, *Criſis, a* κρίνω, *Judico*, vel *Secerno*, and the Evacuation a critical Evacuation, as it judged or put an End to the Diſeaſe. And as *he* obſerved that ſuch *Criſis's*, and their ſalutiferous Effects, were ſometimes produced ſolely by the Operations of *Nature*, without any Aſſiſtance from *Art*, *he* therefore, by the Uſe of true inductive Reaſoning from thoſe *Facts* which *he* had obſerved, not only inveſtigated the Cauſes and the Manner of the Production of all thoſe epidemical Fevers and Diſeaſes; but by the ſame Method of *Reaſoning*, and obſerving *Nature*, and what ſhe did, he diſcovered that an increaſed Motion of the Blood, or a *Fever*, was neceſſary to comminute, break, and *concoct* the *morbid Matter*, and fitted it to be caſt out of the

Body; or, in other Words, to bring on a perfect *Criſis:* And that when the Fever was kept in a moderate Degree, either by *Nature* or by *Art*, and was neither too great and violent, nor on the contrary ſunk too law, the *Criſis* was always the moſt perfect, and moſt effectually carried off the Diſeaſe. *He* therefore wiſely judged that it was the Duty of the Phyſician to aſſiſt *Nature* agreeably to her Intentions and Indications, and always in ſuch a manner as was conformable to them: And by the ſame Method of Reaſoning, and obſerving what *Nature* did, *he* was enabled both to know what *ſhe* indicated to be done, and what Methods and Means *he* ſhould uſe, in order to aſſiſt *her* in the moſt effectual manner, and moſt agreeably to her Endeavours, to carry off the Diſeaſe and its Cauſe in the moſt ſalutiferous manner, when and where it could be done: And as ſo accurate an Obſerver as *he* was, muſt have obſerved, that when the Violence of the Fever was too great, it often put an End to the Patient's Life, before ſuch a ſalutiferous *Criſis* could be brought on; and alſo that *Nature* frequently did render ſuch a violent Fever more moderate and regular, either by a Hæmorrhage from the Noſe, *&c.* or by ſome other Evacuations, ſo that ſhe was thereby enabled to bring on a regular and perfect *Criſis* afterwards; and that that *Criſis* intirely carried both the Fever and its Cauſe off: Therefore, when *he* found the Heat and Violence of the Fever, and the Commotion of the Blood was too great to carry on the Concoction of the *morbid Matter* regularly, ſo as to render it fit to be carried off by ſuch a critical Evacuation, and that it would be deſtructive to the Patient before that could be effected, he wiſely endeavoured to moderate that Commotion of the Blood, and abate the Violence of the Fever by Bleeding [p], and the plentiful Uſe of a thin, diluting, attenuating, and cooling Diet [q], or by ſuch other Evacuations as Nature indicated to him to make; by which Nature being leſs oppreſſed, and more at Liberty, *ſhe* was enabled to carry on the Work of Concoction and Expulſion of the *morbid Matter*, by ſuch a critical Evacuation as *ſhe* endeavoured and indicated to *him*, or to the Phyſician to aſſiſt her to produce [r]. And on the contrary, when *he* found that *Nature* was too languid and weak, either from the natural Weakneſs of the Patient's Conſtitution, the long Continuance of the Diſeaſe, or from too great Evacuations, or from any other Cauſe, ſo that the Motion and Actions of the *Vis Vitæ*, or *Nature*, were too low and weak to carry on and perfect the Work of Concoction and Expulſion of the morbid Matter regularly, *he* was inſtructed by thoſe low languid Motions, and their concomitant Symptoms, both how and when to aſſiſt *her*, agreeably to her Indications, by giving ſuitable cordial Medicines, and a more nouriſhing cordial Diet[s]; as Mulſum, and ſometimes Aromaticks, or Alexipharmicks: And thus *he* was inſtructed by *Nature*, both how and when *he* ſhould aſſiſt *her* whenever *ſhe* either fell ſhort or failed, or was in Danger of failing, or falling ſhort of producing thoſe ſalutiferous Effects.

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[p] Τὰ δὲ ὀξέα πάθεα φλεβοτομήσεις, ἢν ἰσχυρὸν φαίνηται τὸ νόσημα, ϗ οἱ ἔχοντες ἀκμάζωσι τῆ ἡλικίῃ, ϗ ῥώμη παρῆ αὐτέοσιν. Hippocrat. de Victus Rat. in Morb. Acutis.

[q] Τὰς δὲ πυρώσιας ποτοῖσι ϗ ῥοφήμασιν, ὥσπερ τὸν πυρετὸν ψυκτηρίῳ φαρμάκῳ ἐκλυείν, &c. Hippoc. de Locis in Homine, de Victus Rat. in Morb. Acut. Coacæ Prænotiones.

[r] Hippoc. de Vict. Rat. in Morb. Acut.

So likewiſe we find, that when *he* obſerved that both a Turgeſcency of the Humours, and that the infectious *Miaſmata* ſtimulated and oppreſſed the Primæ Viæ in the Beginning of the Fever, in ſuch manner, that *Nature* endeavoured to caſt them out of the Body, either by vomiting or purging, or by both, he not only bled the Patient, but *he* alſo either gave an Emetick or a Purge, or both, at that Time of the Diſeaſe, accordingly as *Nature* indicated[t], in order to leſſen the Quantity of the infectious Matter, by carrying it off, and to moderate the Violence of the Fever thereby, and ſo aſſiſt and enable *Nature* to bring on a perfect Concoction of the remaining morbid Matter, and a complete critical Evacuation of it. And *he* alſo obſerved, that when the morbid Matter was not perfectly concocted, and all compleatly carried out of the Body by a perfect *Criſis*, it frequently cauſed a Relapſe of the Diſeaſe[u]: Wherefore he endeavoured to aſſiſt *Nature* agreeably to her Indications, either to abate the Fever when too violent, by Bleeding and a thin cooling Diet, or when too low, to produce thoſe good Effects, by Cordials and a cordial Diet; and when theſe Methods failed, and *he* could not ſo aſſiſt *Nature* by theſe Methods as above, to bring on a perfect *Criſis*, and a complete critical Diſcharge of the febrile Matter out of the Body; therefore, in order to prevent a Relapſe of the Fever, *he* adviſes Purging, to carry off the remaining Part of the morbid Matter that Way; but not till after the *Criſis* was intirely over, and that we perceive by the ſmall remaining Fever, and the other Symptoms, that it is an imperfect *Criſis*, and therefore requires that Aſſiſtance to carry that remaining Matter intirely off.

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[s] Idem. Ibid. et in L. de Morb. Vulgar.

[t] Hippoc. Aphoriſ. L. 2. Aph. 28. Κατὰ δέ τὰς ἀρχὰς ἐκείνων τῶν νοσημάτων πειρᾶσθαι χρὴ τὰ μείζω βοηθήματα προσφέρειν, ἐστὶ δὲ ταῦτα μὲν μάλιστα, φλεβοτομία ἐνίοτε δέ ϗ ἡ κάθαρσις ὧν οὐδέτερον ἐν τῇ ἀκμῇ χρὴ παραλαμβάνειν. Galen. Comment. 2. in Ap. Hip. et in Lib. de Vict. Rat. in Morb. Acut.

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[u] Hippoc. Aphor. L. 1. Aph. 21. Lib. 2. Aph. 12. and in Lib. de Judicat.

For which Reaſons, when *he* ſaw that the *Criſis* was perfect, and that all the *morbid Matter* was effectually carried off, he judiciouſly forbids giving any *Purge*, becauſe it only ſerves to weaken the Patient, who probably is already too much weakened by the Diſeaſe, and there is no febrile Matter left to be carried off, or that poſſibly can cauſe a Relapſe [a].

For, as *his* Intention of Purging was only to prevent a Relapſe, *he* never gave Purgatives after a *Fever*, when it went intirely off, either by Reſolution, wherein the morbid Matter and the Viſcidity of the Fluids is duly attenuated and aſſimilated, or carried off by inſenſible Perſpiration, without any manifeſt *Criſis*; or by a complete and perfect *Criſis*, becauſe he clearly ſaw that the *Criſis* in both theſe Caſes was perfect, and that there was nothing left behind, either to cauſe a Relapſe, or to be carried off by purging [b].

But in the Caſe of an imperfect Criſis, where ſome Part of the morbid Matter is left behind in the Body, *he* purged to carry it off, leſt it ſhould cauſe a Relapſe [c].

So likewiſe in that Sort of imperfect *Criſis*, wherein *Nature* caſts the morbid Matter, with a Load of Humours, upon ſome particular Part of the Body, and forms an Abſceſs: In that Caſe *he* judiciouſly adviſes and directs us carefully to obſerve the Tendency of *Nature*, and tells us [d], "*That* "*if the Humours tend to an improper Part,* "*we ſhould make a* REVULSION *of them* "*from that Part; but if they have a right* "*Tendency, we ſhould encourage it by opening* "*the Paſſages to the Part which they tend* "*to.*" From hence we may ſee, that *Hippocrates* was acquainted with and well underſtood the Doctrine of *Derivation* and *Revulſion*, and both adviſes them, and made uſe of much the ſame Methods and Means to effect them, as Phyſicians now do, both to draw the Humours to a proper Part, by which they may be either ſafely carried off, or ſafely ſuppurated and diſcharged; or to derive them from an improper (or vital) Part, where they would be fatal: And accordingly we find that *he* bled and purged in a Quincy, to revulſe the Humours from the Throat [e]: And *he* uſed warm Fomentations to derive the Blood from the Lungs, in a vomiting and ſpitting of Blood [f]. And when *he* intended to draw the Humours from one Part of the Body to any other, *he* made uſe of Fomentations, Cupping, Fænigmi, Peſſaries, *&c.* which he applied to thoſe Parts to which *he* intended to aſſiſt

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[a] Τά κρινόμενα ϗ τα κεκριμένα ἀρτίως, μή κινεείν μή δέ νεωτεροπόιειν, μήτε φαρμακάισι μήτὶ ἄλλοισιν ερεθισμοῖσιν ἀλλ᾽ ἐᾷν, Hippoc. Aph. Lib. 1. Aph. 20.

[b] Idem, Ibid.

[c] Hipp. Aph. Lib. 2. Aph. 12.

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[d] Hip. de Morb. Vulg. Lib. 6. Sec. 2. et in Aphoriſm.

[e] Hippoc. de Locis in Homine, ed. Fœſii p. 419.

[f] Idem, de Natura Mulierum.

Nature to draw the Humours, that they might be either carried off by ſome critical Evacuation, as by the Catamenia, as it ſometimes happens, or by Stool, Urine, Perſpiration, or Sweat. Thus *he* endeavoured to aſſiſt *Nature* to carry the Humours off, by increaſing ſome of thoſe Excretions when *ſhe* indicated it, either by giving a Cathartick, or ſome of the above named diluting, attenuating, cooling diuretick and diaphoretick Liquors, plentifully and warm; as, *Hydromel*, *Oximel*, *Warm-water*, *Mulſum*, or *Whey*, and covering his Patients up warm, to increaſe thoſe *Secretions*; eſpecially the three laſt, which they generally do, both more ſafely and more effectually alſo than the hot inflaming cardiac Medicines, ſuch as *Theriaca Androm. Confec. Cardiaca*, &c. which have been, and ſtill are ſo much in vogue here, notwithſtanding what Dr. *Sydenham* and the learned *Boerhaave* have judiciouſly adviſed and ſaid againſt the Abuſe of them.

And how theſe, and ſome other Paſſages in *Hippocrates*, ſhould eſcape the Notice of the late eminent and learned Dr. *Freind*, when he ſaid, " *Etenim Sudor perpetuo apud* " *Hippocratem, quantum ego percipio, non ut* " *curandi inſtrumentum, ſed tantum ut præ-* " *ſagii nota proponitur. Igitur ille in libris,* " *qui*

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[g] Idem de Victus Ratione in Morb. Acut de Morbis Vulgaribus, Lib. 2. [h] De Vict Ratione in Morb. Acut.

“ *qui germani habentur; remedii, quod Sudores provocet, nuſquam meminit*[i].” And he ſays after, “ *Utrùm verò in febribus Urinam moventia adhibuerit, non plane conſtat*[k].” For, in both theſe Caſes that learned Phyſician ſeems to be miſtaken, and muſt have overlooked the above-mentioned Paſſages, as well as ſeveral others, not only wherein *he* gave the above-mentioned cooling, diluting, ſudorifick, and diuretick Liquors, *Hydromel, Oximel, Mulſum,* &c. *warm* and very *plentifully*[l]; and theſe ſmall Liquors, ſo given, are well known to paſs off very freely and plentifully, both by *Urine* and by *Sweat,* eſpecially when the Patient is well covered up and kept warm, as *Hippocrates* in ſome Caſes adviſes[m]. And when they are ſo given, they are both more powerful *Sudorificks* in ſuch *Fevers,* and are every way much preferable to the hot inflaming Sudorificks above-mentioned, which were then and now ſtill are ſo much in Faſhion, and are too often uſed to the Diſadvantage of the Sick; but ſome of them are alſo powerful *diureticks:* And the learned Dr. *Boerhaave* ſays, that *three Parts Water,* and one *Milk*, is the greateſt *diuretick* that we know. But we find that *Hippocrates* alſo gave both Sorts of *Nitre*, the common *Sal Nitrum* in ſome Caſes [n], and the Νίτρον ερυθρον, *Nitrum Rubrum*, or Νάτρον of the *Ancients*, both which are *diureticks*; but in the Jaundice, and in a Suppreſſion of *Urine*, he gave *four Cantharides* [o], without their Wings and Heads; and *he* gave *three* in the ſame manner, pulveriſed in a little Wine, in a *Dropſy* [p]: And *he* is the firſt Author that mentions or uſed *Cantharides* inwardly, and they are a very powerful *Diuretick*; *he* alſo uſed ſeveral *diuretick Vegetables*, which *he* mentions in various Places in *his Works*. And *he* ſays in *his* Book *de Locis in Homine*, “ *In a Fever we may give aqua Mulſa et* “ *Acetum cum aquâ calida, vel Oximel*, “ plentifully.—*And they will waſh off the* “ *morbid Humours by Urine, or by Sweat* [q].” The *Doctor* alſo might have obſerved that *Hippocrates* often mentions *Sweating* as a critical Evacuation, in ſeveral other Places of *his Works*. In one *he* ſays, “ *That Diſ-* “ *eaſes go off by Expectoration, Stool, or* “ *Urine; but that Sweating is common to* “ *them all* [r]. *That* a Cauſos *goes off by a* “ *Hæmorrhage*

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[i] Dr. Freind. Comment. in Hip. de Morb. Epidem. Com. 3.

[k] Idem. Comment. 8. pag. 131.

[l] Hippocr. de ratione Victus in Morb. Acut.

[m] Hip. de Dieta in Morb. Acut. and Hippoc. in Lib. de Morb. adviſes warm Bathing, Fomenting, and covering the Patient up to open the Pores, and promote Sweating.

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[n] Hippocr de Superfœtat. Edit. Fœtii, p. m. 266. l. 19, 54. & de Morb. Mulier. Lib. 1. pag. m. 597.

[o] Hip. de Intern. Affectionibus, pag. m. 552. l. 20.

[p] Hip. de Rat. Victus in Morb. Acut. p. 406.

[q] De Locis in Homine, p. 418. et in locis citat.

[r] De Vict. Rat. in Morb. Acut. et in loc. citat.

“ *Hæmorrhage from the Noſe, or by critical* “ *Sweats, with a concocted Urine.* That “ acute Diſeaſes are terminated by a Flux “ of Blood from the Noſe, on the critical “ Days by copious *Sweats,* with a concoct“ed *Urine* [s] with a good Sediment.” And it appears that three of thoſe four Caſes, which the *Doctor* ſays were carried off by critical Hæmorrhages [t], were really carried off by *critical Sweats* and by *Urine,* with a large Sediment [u]: *Nature* being leſs oppreſſed, and at more Liberty after that Evacuation by the Hæmorrhage, *ſhe* then carried off all thoſe *three Fevers,* either by large warm *critical Sweats,* or a copious Sediment in the *Urine,* as appears from *Hippocrates*'s own Words [w], and as ſhe did in the other Patients, mentioned in the ſame Books, 1ſt and 3d.

And although *Hippocrates* does not tell us what Medicines *he gave,* or what Methods he uſed in thoſe Caſes to aſſiſt *Nature,* either to promote the *Hæmorrhages,* the *Sweats,* or *Urine,* no more than *he* mentions Bleeding in ſeveral other Caſes, when it probably was uſed, as both *Galen* and Dr. *Freind* [x] ſuppoſe; as we find that *he* both uſed warm Bathing, Fomenting, Anointing, and the above-mentioned ſmall Liquors, which he gave plentifully warm, to promote thoſe Evacuations, eſpecially near the *Criſis*, at other Times and in other Caſes: It is as reaſonable to ſuppoſe that *he* uſed the ſame Methods to thoſe *Patients*, mentioned in his Books of epidemic Diſeaſes; and that he did not ſtand as an idle Spectator in thoſe Caſes, ſince he was always ſo ready to aſſiſt *Nature* in all other Caſes.

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[s] Hippoc. Coacæ Prænotiones, et in locis jam citat.

[t] Dr. Freind. Comment. in Hip. Epidem. Com. 3.

[u] Hippoc. de Morb. Vulgar. L. 1. Æger 6, 7. Lib. 3. Æger 11, 12.

[w] Ibidem.

[x] Comment. 1. p. 11.

And as *Hippocrates* always carefully obſerved Diſeaſes, and all their Symptoms, Changes, and their Progreſs, and as diligently watched *Nature*, and what ſhe did, or indicated to be done, *he* was enabled, by reaſoning truly from the Facts which he obſerved, and conformably to *Nature's* manner of acting, both to know what ſhe endeavoured and indicated to be done, and how to aſſiſt her in the moſt judicious and effectual manner, to bring on a perfect *Criſis*, and thereby to carry off the *morbid Matter*, and the *Fever* cauſed by it, agreeably to ſuch Ways as ſhe indicated, when and where that could be ſafely and effectually done. And when *he* ſaw that that could not be effected, he was inſtructed, by the ſame Method of Reaſoning, what Methods *he* ſhould uſe to revulſe the morbid Humours, from ſuch Parts as they could not be diſcharged by; and how *he* ſhould derive them to ſuch Parts of the Body, as they might be effectually carried off by a critical Evacuation. And *he* acquired all this Knowledge, ſolely by obſerving the Changes of the Air and Seaſons; and by carefully obſerving Diſeaſes, and all their Symptoms and Progreſs, and as diligently obſerving *Nature*, and what ſhe did, or indicated to be done, aſſiſted by true inductive Reaſoning from the two firſt, and as carefully following and aſſiſting *Nature*, agreeably to her Indications; and he did all theſe without either knowing the *Circulation of the Blood*, or how the various animal Secretions and Functions of Life were performed, or knowing the *Laws of Motion of Matter*, or the *Laws of Motion of Fire*; all which have been ſince diſcovered by the Moderns, by the ſame Methods of Obſervation, Experiments, and inductive Reaſoning, as we ſhall ſee in the following Pages.

Thus we ſee how this great *Father and Prince of Phyſicians* was inſtructed and enabled, both how to truly know Diſeaſes, and their Cauſes, and their Manner of Production; and alſo how *he* was enabled to cure them in the moſt ſafe and effectual manner, by carefully following and judiciouſly aſſiſting *Nature*, according to *her* Endeavours and Indications; and how greatly *he* improved medical Knowledge, and the Art of curing Diſeaſes by thoſe Methods: And if all the learned and ingenious Phyſicians, who have lived ſince him, had purſued the ſame Methods, even with half as much Penetration and Diligence as *he* did, no doubt but the *medical Art* might have been brought to a much greater State of Perfection than it is yet arrived to. But alas! too many of the moſt ingenious Phyſicians ſince *him* have purſued very different Methods, which have much more hindred than improved the healing Art, as we ſhall ſee; yet thoſe few eminent Phyſicians, who have purſued *his* Methods, have made many great Improvements in the various Branches of this *Art*.

Hippocrates did not only make all theſe great Diſcoveries and Improvements, but by the ſame Method of carefully obſerving and accurately diſtinguiſhing all the different Symptoms which attended all the different Kinds of Fevers, and other Diſeaſes, and obſerving all the Conſequences which attended and followed them, *he* was enabled to diſtinguiſh which Symptoms were good, and indicated the Recovery of the Sick, and which were bad Symptoms, and indicated the Death of the Patient: And from theſe, aſſiſted by the Obſervations and Predictions which *he* had collected from the before-mentioned Tables, in the Temples of *Æſculapius*, and true inductive Reaſoning, *he* was not only enabled to predict the Recovery, or the Death, or other future Accidents, which did attend *his* Patients, but alſo to form and draw up all thoſe valuable and uſeful Predictions, which *he* has left us in his *Coacæ Prænotiones, Lib. Prædictorum*[y], *Lib.* 1, 2. *Lib. Prænotionum* 1. *De Judicationibus, et de Diebus Judicatoriis,* and in his excellent and no leſs valuable Book of *Aphoriſms*, as well as in ſeveral other Parts of *his Works*, which in general have been found to be true, and therefore have remained to be eſtabliſhed Rules to all ſucceeding Phyſicians ſince *him*; and moſt probably will be ſo to all future Ages, unleſs Mankind ſink again into a State of Ignorance and Empiriciſm, as they did for a thouſand Years after him, as we ſhall ſee; to which this preſent Age ſeems to have too great a Diſpoſition and Tendency; wherein accurate Obſervations, juſt Reaſoning, and true *Theory*, are already become ſo unfaſhionable; and reaſoning from Hypotheſes and imaginary Data, or trifling with Suppoſitions, and amuſing themſelves with Cockle-ſhells, and pretty Butterflies, and other Inſects, which furniſh us with no uſeful Knowledge, though they may be pretty innocent Amuſements for Ladies, who have much Leiſure, as they ſhew the great Variety of the Works of Nature, but are of little or no real Uſe in the medical Art, though they are ſo much in Faſhion now, and have been ſo ſome Years paſt. For when we reaſon from falſe Data and imaginary Hypotheſes, and depart from *Nature* and her Laws of acting, how truly ſoever we may ſeem to reaſon, all our Inductions which we draw from them, and all the Syſtems ſo formed muſt be erroneous or falſe, therefore *Hypotheſes* and imaginary Suppoſitions never ſhould be admitted either into *Philoſophy*, or the *medical Science*.

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[y] Theſe two Books are ſuppoſed by ſome Authors to be written by Polybus, and not Hippocrates.

But as *Hippocrates* always accurately obſerved and ſtrictly followed *Nature*, and reaſoned truly from *Facts*, and always conformably to what *Nature* did, *he* never was in danger of falling into ſuch Hypotheſes, or any ſuch Errors: Neither ſhall we, if we do but as ſtrictly obſerve and follow *Nature* as *he* did, although ſhe does not act as an intelligent Being, with Deſign, yet ſo wiſely and wonderfully is the human Body formed, and ſo conſtructed, that when any deleterious Matter, or any infectious or contagious *Miaſma*, are got into the Body, they ſoon ſo ſtimulate, irritate, and offend thoſe ſenſible nervous Parts, which they come into contact with, that they cauſe them to contract themſelves more ſtrongly and more frequently, in order thereby to eject that offending Matter out of the Body, as we frequently ſee *ſhe* does by vomiting and purging, when the offending Matter is in the Primæ Viæ; and when it is got into the circulating Fluids, the ſame irritating Cauſe ſo ſtimulates the Heart and Arteries, that it cauſes them to contract more frequently and ſtrongly, and thereby to act with greater Force upon their contained Fluids, and cauſes them to move with greater Velocity, and act with greater Force, by which the *morbid Matter*, or *Miaſma*, is caſt out of the Body by *Perſpiration*, *Sweat*, *Urine*, or by *Stool*; or when the contagious *Miaſma* is compoſed of ſuch Parts, either from their Form, Figure, Magnitude, or Coheſion of its ultimate elementary Particles, that they cannot paſs off by any of the excretory Paſſages; that increaſed Action of the Solids and Motion of the Fluids, cauſed by the Stimulation of the morbid Matter, ſtill remaining, ſo increaſes the Motion and Attrition between the Solids and Fluids, that they collect a great Quantity of *Fire*, and produce a great *Heat*, or a high Fever, which will be greater or leſs, as the Quantity of Motion and Attrition are greater or leſs, by the *Laws of Motion of Fire, Law the* 1ſt; and that increaſed Quantity of *Fire*, or Heat, by its active, penetrating, and dividing Power, and its ſtimulating power, together with the continued increaſed Momentum of the circulating Fluids, will attenuate, divide, and break, or in *Hippocrates*'s Terms, *concoct* that *morbid Matter*, ſo as to render it fit, or capable of paſſing through ſome of the excretory Veſſels or Pores, and will then be caſt out of the Body by *Nature*, by a critical Evacuation, through ſome of the excretory Paſſages, which *Hippocrates* called a *Criſi* of the Fever; and when the morbid Matter, which cauſed that Stimulation, is thus intirely caſt out of the Body, the Irritation, and the increaſed Motion of the Fluids, and the Fever and Heat, ſoon ceaſe alſo, and the Diſeaſe goes off; and the Fluids return to their regular Motion, and the Sick is reſtored to Health again, by that complete and perfect Diſcharge of the *morbid Matter*, which cauſed the Fever. This Diſcharge or Evacuation, *Hippocrates* therefore judiciouſly called a *Criſis*, as it finally determined and put an End to the Diſeaſe.

We do not ſuppoſe that *Hippocrates* reaſoned exactly in this Manner, becauſe neither the Circulation of the Blood, nor the *Laws of Motion of Matter*, nor the *Laws of Motion of Fire*, were then known; yet by carefully obſerving *Nature*, and what ſhe did, and what Effects ſhe produced, *he* diſcovered that ſhe did produce theſe very Effects, and that Fevers were thus judged and determined by a *Criſis*, on ſome certain Days, *he* therefore carefully obſerved and accurately deſcribed thoſe their different critical Days.

It is well known that there have been ſome Phyſicians both among the Ancients and Moderns, who were Men of ſome Eminence and conſiderable Practice in their Time, who have rejected and pretended to deſpiſe this ancient Doctrine of *Criſiſes*, and *critical Days*; and there alſo have been, and ſtill are ſome others, who, although they allow that Fevers might come to their regular Criſis, in the warmer Climate of *Greece*, where *Hippocrates*, and the other *Greek Phyſicians* lived; but will not allow that Fevers now come to ſuch a *Criſis* in the colder Climates, eſpecially in *England*. But ſuch Phyſicians, if there can be ſuch now, are greatly miſtaken, and their Ignorance of them muſt either ariſe from their own Indolence, and their neglecting to obſerve the Riſe and Progreſs of Fevers to their ἀκμήν, or Height, and their Declenſion and coming regularly to their *Criſis*, which they as certainly do in this Iſland, and all other Countries, as they did in *Greece*; or from their Want of Penetration to ſee them do ſo. For we find that the honeſt and worthy Dr. *Sydenham* [a] obſerved, that Fevers came to their regular Criſis in *England* in his Time; and the learned Dr. *Boerhaave* [b] obſerved, that they did ſo in *Holland*; and

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[a] Vide Dr. Sydenhami Opera in variis locis. [b] Aphoriſm. de Cog. et Cur. Morb. §. 587. et in Comment. Barroni Van Swieten in ejuſd.

Dr. *Hoffman* [c] in *Germany*; and ſeveral other eminent and learned Phyſicians [d] have always obſerved the ſame here in *England* ſince them: And I may take the Liberty to add, that I have conſtantly obſerved, that during the Courſe of my Practice above thirty Years, *Fevers*, when properly treated, have generally come as regularly to their *Criſis*, both here in *England* [e] and in the Iſland of *Barbadoes* [f], which is within the *Torrid Zone* alſo, and is as much warmer than *Greece*, as *Greece* is warmer than *England*; therefore we may conclude, that *Fevers* come as regularly to their *Criſis* in all Nations and Climates, as they did in *Greece*, if properly treated, which ſufficiently confirms the Truth of the *Hippocratic Doctrine of Criſis's* in that Reſpect: Tho' we muſt allow, that *Hippocrates* ſeems in ſeveral Places of his Works, eſpecially in his Books *de Criſibus*, *de Judicationibus*, *et de Diebus Judicatoriis*, to be a little too much influenced by the philoſophical Opinions of *Pythagoras*, which was much in Vogue in *Greece* in his Time, and more particularly in regard to his odd Number of Days, and the *Criſis* of *Fevers* happening

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[c] Fred. Hoffmani Med. Rational. Tom. 3. §. 1. Cap. 25, &c.

[d] Vide Dr. Huxham de Aere et Morb. Epidem. circa Plym. paſſim. Dr. Clif. Winteringhami Comment. Noſolog. paſſim.

[e] See Obſervations on the Air and epidemical Diſeaſes at Rippon. In Hillary on the Small-Pox.

[f] Obſervations on the Air and epidemical Diſeaſes in Barbadoes, 1759, by the ſame.

ing on thoſe *odd Days*, being more perfect *Criſis's* than thoſe which came on the even Number of Days[g]; yet *he* was not ſo far influenced by thoſe odd Days, as to think that a perfect *Criſis* could not come on an even Number of Days, as he mentions ſome that did, as on the fourth and ſixteenth Days, which were perfect; and ſome others: And although *he* might be a little influenced by that then faſhionable Philoſophy as *Celſus* ſays[h], yet he certainly was probably the moſt free from Superſtition of any Man in thoſe Times, as appears from what *he* ſays in his Book *de Morbo Sacro:* So ſubject are even the greateſt of Men, to be more or leſs influenced by Faſhion, and plauſible Appearances in Things that come from Men, who have acquired a great Name, as *Pythagoras* had.

How much *he* improved *Surgery* and *Pharmacy*, we cannot certainly ſay; becauſe we have no Account of what Improvements had been made in them, from the Time of *Æſculapius* to *his* Time, a Space of more than 700 Years: But as the Practice of Phyſic, as well as Surgery and Pharmacy, were very ſimple before that Time, and probably many Years after *Æſculapius*'s Time, no doubt but ſome conſiderable Improvements had been made in them both, before the Time of *Hippocrates*; and it is no leſs probable, that *he* made ſeveral great Improvements in them, as well as in the *Practice of Phyſic*, as they were all practiſed by the Phyſician, and were not divided into three different Profeſſions, till ſome Years after *Hippocrates*'s Time, as we ſhall ſee hereafter. However, that *Hippocrates* practiſed and very well underſtood all the Operations in Surgery (except cutting for the Stone, which was in thoſe Days left to thoſe Perſons who profeſſed it only) as Trepanning, the Paracentæſis, both in an Empyema and a Dropſy; and he opened the Back to diſcharge the Matter from an Abſceſs in the Kidney [i]; he reduced Fractures and Diſlocations, and uſed Aſtringents, Ligatures, and Cauterizing, to ſtop bleeding in large Wounds, and Sutures to unite their Lips; and practiſed moſt of the Branches of Surgery with great Skill, inſomuch that the Improvements made in that Profeſſion ſince his Time, are not ſo very great as ſome Perſons ſuppoſe them to be, though ſome conſiderable Improvements have been made ſince the ſeveral Improvements in Anatomy have been made.

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[g] Hippoc. Aphoriſ. Sec 4. Aph. 36. Aph. 61, 64.

[h] Verum in his quidem Antiquos, tunc celebres admodum Pythagorici numeri fefellerunt, Celſ. Lib. 3. Cap. 4.

From what we have ſaid before, it appears that the Method of treating and curing Diſeaſes was very ſimple and plain, and made but a very ſlow Progreſs in its Improvement during the firſt Ages of the World, down to the Time of *Æſculapius*; and from his Time, down to that of *Hippocrates*, ſuppoſed to be about 700 Years, the Practice ſeems to have been chiefly Chirurgical, or ſo much of it as was Medical, or giving Medicines internally to effect the Cure of Diſeaſes, conſiſted only of having a few Receipts, how to prepare a few ſimple Remedies from ſome particular Plants, and a few ſimple Medicines for ſome few no leſs ſimple Diſeaſes, which they had found out by Experience, and preſerved by Tradition: So that the Practice of Phyſick, before the Time of *Hippocrates*, was only *Empirical*, and made but a ſlow Progreſs in its Improvement, even in the *Aſclepiadian* Family, till *Hippocrates* came; who was born in the Iſland of *Coos* about 458 Years before the Beginning of the *Chriſtian* Æra, and 2218 Years ſince. *He* was of a noble Family, the Son of *Heraclides*, and the Eighteenth in a lineal Deſcent from *Æſculapius*, and of *Phænarete* or *Praxithea* his Mother, who was the 19th Deſcendant from *Hercules*[k].

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[i] Le Clerc. Hiſt. de la Medicine, p. 232.

And as *Hippocrates* is ſaid to have lived to the Age of 105 Years, and was a Man of great Penetration and ſound Judgment, and of no leſs Probity and Temperance, and endowed with all neceſſary Qualifications and Abilities for improving the medical Art; all which he applied with great Diligence and indefatigable Induſtry, to its further Improvement.

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[k] Idem, p. 113.

And accordingly we ſee what great Diſcoveries and Improvements *he* made in that Art, by carefully obſerving all the Changes of the Air, Weather, and the Seaſons, and on the various different Kinds of Diet, and all the Changes made therein, as well as all other Accidents which happen to Men; and as accurately obſerving how all thoſe Changes and Accidents affected the human Body, what Changes they produced therein, and what Diſeaſes followed and were produced by them; whether they were endemial, epidemical, contagious, malignant, or peſtilential, or whatever other Diſeaſes they were, that came with or ſucceeded thoſe Changes.

By thus accurately obſerving all thoſe Changes and Effects, and what *Nature* did, *he* was enabled, by *true and judicious inductive Reaſoning*, not only to know what Aſſiſtance *Nature* wanted, but alſo how and when *he* ſhould aſſiſt *her*: And *he* alſo was thereby enabled to predict the future Events and Effects of thoſe Diſeaſes, when *he* ſaw them.

Thus by making many accurate Obſervations on the Air, Diſeaſes, and Nature, as above, and reaſoning juſtly from them, and conformably with the Actions of *Nature*, and confirming the Truth of his Inductions from them, by further Obſervations and Facts again, *he* was enabled to form and draw up all thoſe inimitable and moſt valuable APHORISMS which *he* has left us, and which have remained as ſo many permanent Truths through all paſt, and probably will ſo remain through all future *Ages*.

But *he* has alſo left us his no leſs valuable *Coacæ Prænotiones*, and thoſe judicious Remarks and moſt uſeful Rules of Practice, in *his* Book *de Victus Ratione in Morbis Acutis*, wherein *he* has given us excellent Rules how to adapt the Diet of the Sick, both to the different Degrees and the different Times of Fevers, as well as to the different Ages, Conſtitutions, and the Degrees of Strength of our Patients; and many other uſeful Obſervations, both in that Book and in various other Parts of *his Works*; to enumerate which, would be writing a Hiſtory of *his Works*, which is not my Intention, nor to write a Hiſtory of *Phyſick*, but to give my Readers a ſhort Sketch of the moſt material Diſcoveries and Improvements which *he* made in the *medical Art*; that we may be induced thereby to imitate and purſue thoſe Methods by which *he* did make thoſe great Diſcoveries and Improvements, and thereby ſtill further improve medicinal

Knowledge; and not by forming imaginary Hypotheſes, or reaſoning from Suppoſitions and falſe Data, how philoſophical and plauſible ſoever they may appear to be; but from real *Facts*, known by accurate Obſervations upon Diſeaſes and their Cauſes, and upon *Nature*, and her Motions and Manner of acting, carried on by juſt and true Reaſoning from and conformable to them; as it was by theſe Methods that the great HIPPOCRATES made all *his* great Diſcoveries, and ſo much improved the empirical Practice of his Predeceſſors, as to form *his* juſt and *true Theory* and *Practice of Phyſick*, as *he* ſays, ΚΑΤΑ ΦΥΣΙΝ ΘΕΩΡΕΩΝ, by *theorizing agreeable to Nature*, Reaſon, and Truth: But what is ſtill more ſurpriſing is, that this great Phyſician could make all thoſe great Diſcoveries and Improvements, and obtain all that extenſive Knowledge in the medical Art, ſolely by making Obſervations on Diſeaſes, on Nature, and her Actions, and by reaſoning from and agreeably to them, without either knowing the *Circulation of the Blood*, the *Laws of Motion of Matter*, and the *Laws of Motion of Fire*, or knowing the true Structure of the human Body, and the Uſe and Actions of its different Parts, ſo well as to know where and how Nutrition, and the various Secretions, Excretions, and all the other Functions of Life are performed, or more certainly in what Parts of the Body each of them are performed; although he did know from Obſervation and Experience, that they were all conſtantly and regularly performed in a perfect State of Health. Yet without the Knowledge and Aſſiſtance of theſe, and the other modern great Diſcoveries, we ſee what great Diſcoveries and Improvements *he* made in the healing Art, and to what a prodigious great Extent *he* was able to carry his Knowledge of Diſeaſes, their Cauſes, and the Methods of treating and curing them, as well as predicting their future Events, ſolely by the above-mentioned Methods of Proceeding, which ſo juſtly entitled *him* to that great Reputation, *Name*, and *Fame*, which has been aſcribed to *him* in all Ages ſince: So that though *Æſculapius* is ſaid to have been the firſt Inventor, yet *Hippocrates* has always had the Honour of being the firſt that formed and eſtabliſhed *it* as an *Art*; wherefore *he* has been called Ἀρχιάτρος, *firſt Phyſician*, by moſt Phyſicians, both as *he* was the greateſt of *Phyſicians*, and the *firſt* that brought the empirical Practice of the Ancients to be a real *medical Art*; for which *he* was ſo much eſteemed by his Countrymen, that ſome of the idolatrous *Greeks* worſhipped him as a God after his Death.

SECT. II.

On its IMPROVEMENT *after the Time of* Hippocrates.

HIPPOCRATES left two Sons, *Theſſalus* and *Draco*, and a Son-in-law *Polybus*; the firſt was Phyſician to *Archelaus* King of *Macedon*; and the ſecond had a Son called *Hippocrates*, who was Phyſician to *Roxana*, the Wife of *Alexander* the Great; and *Polybus* continued to teach the Scholars of his Father-in-law *Hippocrates* after his Death; and is ſaid to be the Author of ſome of the Books which have been aſcribed to *Hippocrates*. But as neither theſe, nor ſeveral other Phyſicians, who were Cotemporaries with, or lived ſome Years after *him*, have left us any of their medical Works that are come to our Hands; and the ſhort Accounts that we have of them are ſo uncertain, and give us no Account of any real Diſcoveries or Improvements that they made in the medical Art, I ſhall paſs over them; and thoſe who deſire to know more of them, may conſult Dr. *Le Clerc*'s *Hiſtoire de la Medicine*, till we come to *Theophraſtus*, who has left us a natural Hiſtory of *Gems*, and of *Plants*, but ſays little of their medicinal Virtues, ſo that we can collect nothing that was new from them.

Diocles Caryſtius lived ſoon after *Hippocrates*, and was called by the *Athenians* the ſecond *Hippocrates*; he wrote a Treatiſe of *Anatomy*, or rather on the Method of Diſſecting, but made no material Improvements therein; and ſeveral Books of *Phyſic*, which are all loſt.

And *Praxagoras* ſoon ſucceeded him; and is ſaid to have been the firſt that diſtinguiſhed the *Arteries* from the *Veins*; he divided the Humours of the Body into eleven different Humours, and ſuppoſed that theſe, and their different Diſpoſitions, were the Cauſes of Sickneſs and Health: Thoſe that deſire it, may ſee more of the Practice of theſe two Phyſicians in *Cælius Aurelianus*. However they are ſaid to have chiefly adhered to and followed the *Hippocratick* Doctrine and Method of Practice, though they are often quoted by *Cælius Aurelianus* the Methodiſt.

And as moſt of the eminent *Greek Philoſophers* had applied more or leſs of their Time to the Study of the Nature of the human Body, and ſome of its Diſeaſes, and ſeveral of them had written ſomething upon ſome of the Branches of the medical Art, as, *Pythagoras*, *Heraclitus*, *Democritus*, *Epicurus*, *Plato*, and *Ariſtotle*, and ſome others, though none of them have been preſerved to our Times; yet the Principles of their different Syſtems of Philoſophy appeared ſo plauſible, together with their being much in faſhion at different Times, that they were introduced into the *medical Art*, either in Hopes, or with Pretence of explaining the Cauſes of Diſeaſes, or more clearly diſcovering and demonſtrating the Methods of curing them; though they generally reaſoned philoſophically, and probably ſometimes truly, from Suppoſitions and imaginary Data, and not conformably to the Operations of *Nature*; hence they were generally led into Miſtakes and Errors: And although *Hippocrates* himſelf might be a little too much influenced by the Philoſophy of *Pythagoras*, in regard to his odd Numbers in *his Criſis's* of *Fevers*, and by the Philoſophy of *Heraclitus*, in regard to the Effects of *Fire*, in the Performance of the Action of Digeſtion of our Food, and the *Concoction* of the *morbid Matter* in *Fevers*; in both which laſt *he* probably will be found to be *right*, when the *Laws* of the *Action of Fire* are better underſtood; yet *he* in other reſpects only made uſe of ſo much Philoſophy as enabled him to reaſon more juſtly, and took care to reaſon from certain known Facts, and always conformably to *Nature*, and what ſhe really did, both in his inveſtigating the Cauſes of Diſeaſes, and the Methods of curing them; wherefore they remain to be Truths, and are right in general, even to this Day. But the Phyſicians who came after *him*, not being ſo careful either in their Obſervations, or in being certain of the Truth of their *Data*, which they reaſoned from, or not ſo accurate in obſerving and following *Nature*, as *he* was; their Syſtems of Philoſophy generally led them into Hypotheſes and Errors, and divided the Phyſicians, who came after this Time, into different Sects and Parties, as we ſhall ſee hereafter.

Eraſiſtratus, the Scholar of *Chryſippus* the *Cnidian*, a Deſcendant from *Æſculapius*, and *Herophilus* of *Chalcedon*, are ſaid to have been the firſt that diſſected human Bodies, in order to diſcover its Structure, and improve their Knowledge in Anatomy; and it is alſo ſaid that *Ptolemy Soter*, and *Ptolemy Philadelphus*, Kings of *Egypt*, allowed them the Bodies of the condemned Malefactors for that Purpoſe [a]. *Eraſiſtratus* is ſaid to have firſt diſcovered the *lacteal Veſſels*; and he ſuppoſed that the Nerves were of two Sorts, the one to convey Senſe, and the other to give Motion to the different Parts of the Body; but he ſuppoſed that the Arteries contained and conveyed the Spirits, and the Veins the Blood; and that the Cauſes of Diſeaſes were generally in the Solids, and not in the Spirits or Humours: And he firſt ſays that the Urine is ſeparated in the Kidneys, and not by Attraction, as *Hippocrates* and the Ancients, as well as all the Philoſophers ſuppoſed; though he does not explain how it is ſecreted: But one of his Followers ſays, that the aqueous Part of the Blood deſcends by its Weight to the loweſt Part of the Kidney, and is, with the uſeleſs Parts of the Blood, ſo carried off. He oppoſed Bleeding and Purging in moſt Caſes, eſpecially in a Plethora, and ſubſtituted Abſtinence, Vomiting, and Clyſters, inſtead of them. In other reſpects, he chiefly followed the *Hippocratick* Method of Practice; though he wrote expreſly againſt the *Coan Phyſicians*, of whom *Hippocrates* was the Chief [b]. He was a very able Surgeon, but was thought to be too cruel in ſome of his Operations; as, he would open the Belly in a ſcirrhous Liver, and apply his Medicines to the Part affected [c]. And he is ſaid to have diſcovered by the Alteration of the Pulſe and Countenance, which he found in *Antiochus* the Son of *Seleucus Nicanor*, whenever Queen *Stratonice* came into his Chamber, that his Diſorder aroſe from his being in Love with that Queen, his Mother-in-law [d].

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[a] Celſus in Præfat. Lib. 1. p. 7. for which he condemns their Cruelty, about A. Mund. 3690, and about 200 Years after Hippocrates.

But *Herophilus* his Cotemporary, is ſaid to have been the greater Anatomiſt, and to have

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[b] Dr. Le Clerc. Hiſt. de la Medicine.

[c] Cælius Aurelian. de Tard. vel Morb. Chron. Lib. 3. Cap. 4.

[d] Plutarch in Demetr. Valer. Maxim. L. 5. C. 7. Galen de Præcog. ad. Poſthum. C. 6. Le Clerc. Hiſt. de la Med. p. 294.

have underſtood the Structure of the human Body better, and to have made more Diſcoveries therein than *Eraſiſtratus* did, if we may believe *Fallopius* [e], who was a very good Judge therein. He is alſo ſaid to have diſcovered the *lacteal Veſſels*; and gave Names to the various Parts of the Body, which they retain to this Day [f]. He was a great Lover of *Botany*, as well as *Phyſick* and *Surgery*; and is ſaid to have made ſome conſiderable Improvement in each of them. *Galen* calls him a conſummate *Phyſician*, and a very great *Anatomiſt*; and ſays, that theſe two great Anatomiſts diſſected many human Bodies at *Alexandria* in *Egypt* [g]. *Tertullian* ſays 600, and calls him *Herophilus ille Medicus aut Lanius*; as they are ſaid to have diſſected condemned Criminals alive [h]. He is ſaid alſo to have diſcovered the *Nerves*, and their Uſe [i]. He makes three Sorts of them; the firſt to convey Senſation, the ſecond to move the Bones, and the third the Muſcles. He alſo mentions the *optic Nerves*, the *Retina* [k], and the *Tunica Arachnoides*, and *Choroides*; the *Lacteals*, *meſcenteric Glands*, and the *Glandulæ Proſtatæ*. He is the firſt that wrote any thing diſtinctly with Exactneſs on the *Pulſe*, though *Hippocrates*

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[e] Fallop. de Mater. Med. Diaſcorid. L. 1. C. 1.
[f] Le Clerc. Hiſt. de la Med. p. 320. Idem. Ibid.
[g] Galen. de Diſſect. Vulvæ, Cap. 5. Le Clerc. Hiſt. Med. p. 317.
[h] Tertull. de Spir. vel Anim.
[i] Le Clerc. Hiſt. Med. p. 319.
[k] Idem. Ibid. et p. 320.

crates took ſome Notice of it. To underſtand which *Pliny* ſays [l], one ſhould underſtand Muſick and Geometry; probably becauſe he made uſe of the Terms of thoſe Arts, to divide and meaſure the Times of its Motion with. He is ſaid to have been the firſt that adminiſtred many Medicines to his Patients, at leaſt more than the Ancients uſually did; though he in general uſed and followed the Method of Practice of *Hippocrates*, and his Maſter *Praxagoras*, though he wrote againſt the *Prognoſticks* of the firſt [m]; moſt probably becauſe he did not perfectly underſtand them, as he had not time to make ſuch Obſervations.

Theſe two eminent Phyſicians had many Diſciples and Followers, but they did not follow the *Hippocratick* Method as their Maſters generally did, but began to neglect the Method of obſerving the Changes of the Air, the Nature and Progreſs of Diſeaſes, and the Actions and Operations of *Nature*; and took the much more eaſy, but the more fallacious and uncertain way of endeavouring to ſupply the Deficiency of that laborious way, by reaſoning in a philoſophical Manner from imaginary Hypotheſes, which were more eaſily formed, but led them into various erroneous Opinions, and ſoon after divided them into ſeveral different

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[l] Plin. Nat. Hiſt. Lib. 29. Cap. 1. Le Clerc. Ibid.

[m] Idem. Ibid. p. 320.

different Sects in the medical Art, accordingly as they embraced the new different Syſtems of Philoſophy, as we ſhall ſee.

For moſt of the various new Syſtems of Philoſophy, which had been invented by the ſeveral *Greek Philoſophers*, in that and the two preceding Centuries, were each of them, in their Turns, brought into the *medical Art* by different Phyſicians, accordingly as they embraced their different Syſtems; and this produced a Variety of different *Sects* in the Profeſſion, as, the *Dogmatiſts*, *Empiricks*, *Pneumaticks*, *Epiſyntheticks*, *Ecclecticks*, and *Methodiſts*. But *Hippocrates* had only introduced ſo much of his Philoſophy into *his Theory of Phyſick*, as enabled him to reaſon truly in inveſtigating the Cauſes and the Methods of curing Diſeaſes: Hence thoſe who followed his Method of Reaſoning, when theſe Diviſions were made, were called ΔΟΓΜΑΤΙΚΟΙ, Rationaliſts: But we find that this Diviſion into different *Sects* was not made before this Time, viz. about the Beginning of the 38th Century, or about 150 Years before *Chriſt*: So likewiſe, although the Practice of Phyſick was *Empirical* from its firſt Beginning, yet the *Empiricks* were not formed into a *Sect* till the time of SERAPION, a Native of *Alexandria* in *Egypt*, where he lived and practiſed: He finding that the Phyſicians of thoſe Times had ſo filled their

Heads with the ſeveral different new Syſtems of Philoſophy, which were then ſo much in vogue, that every one attempted to account for and explain the Cauſes, Symptoms, and Effects of Diſeaſes, and the Methods of curing them, according to the Principles of that Philoſophy which he had embraced, and liked the beſt: Whence that of making Obſervations on *Diſeaſes* and *Nature*, according to the Method of *Hippocrates*, was almoſt intirely neglected, except by the few *Dogmatiſts*, who had ſo much Penetration and Senſe, as to ſee that *Obſervations* and *Reaſoning*, were ſo far from being incompatible with, that they might greatly aſſiſt each other: and that by Reaſoning from real *Facts*, diſcovered and certainly known by accurate Obſervations, they may be ſo improved by juſt Reaſoning, as to lead us to the Knowledge of Things, which we did not know before. But *Serapion* being ſo much diſpleaſed with their trifling with, and Abuſe of Reaſoning, according to the falſe Principles of their various erroneous Syſtems of Philoſophy, ſeems to have run into as great an Extreme on the other hand, and endeavoured to maintain, "*That Reaſoning was of no uſe in* "*Phyſick, and that we ought to adhere ſolely* "*to Experience*[a]. Thus he rejected all Reaſoning, becauſe ſome Men by reaſoning wrong, run into great Miſtakes and Errors, as ſome have done in all Ages; but that could not be a ſufficient Cauſe for his rejecting all Reaſoning, ſince Reaſon is the Guide which ſhould direct and govern all our Actions. However this his Conduct gave riſe to the *Sect* of the *Empiricks*, who have always looked upon *Serapion* the *Alexandrian*[b], (or *Philinus* of *Coos*, a Diſciple of *Herophilus*, who *Galen* ſays[c] was a half *Empirick*, though he has been generally deemed a *Dogmatiſt*) to be their firſt Founder or Head: And the *Methodiſts* have alſo claimed *Serapion* as their Founder; for both theſe *Sects* rejected all Reaſoning and *Theory* in Medicine, therefore their Practice muſt have been *Empirical*, as well as that of the *Empiricks*; or what is worſe, ſometimes right, and often wrong, as not being directed by Reaſon.

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[a] Dr. Le Clerc Hiſt. de la Medicine, p. 342.

This happened about the Beginning of the Thirty-eighth Century, in the Reign of *Ptolomy Philometor*, or *Euergetes*, and 140 Years before *Chriſt*. What the different Opinions of the *Dogmatiſts* and *Empiricks* were, and wherein they differed, is elegantly and conciſely deſcribed by *Celſus*[d], and more fully by *Galen*[e] and Dr. *Le Clerc*[f], which the Reader may ſee at large, as the laſt has given us a full Deſcription of their Tenets.

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[b] Idem. Ibid. & Galen. in Introd. ad. Subfig. Empir.

[c] Idem. Ibid.

[d] Celſus in Præfat. Lib. 1.

[e] Idem. Ibid.

[f] Le Clerc. Hiſt. de la Med. p. 344, 347.

However ſome of the *Empiricks* did admit of a little Reaſoning, others not, but in general were ſatisfied with obſerving what effected a Cure, without reaſoning about the Cauſes of Diſeaſes. But the *Dogmatiſts* carefully obſerved Diſeaſes, their Symptoms, and what *Nature* did, and how Cures were effected by her; therefore thought it was neceſſary to know the Principles and Structure of the Body, the Cauſes of Diſeaſes, how they were produced, and how they were carried off and cured, either by *Nature* or by Art; and therefore ſhould be known by accurate Obſervations and juſt Reaſoning, by every Phyſician, before he attempts to make a Cure. *Celſus* examines both their different Opinions, and judiciouſly blames what he thought was wrong in either of them, and approves of what was right: He therefore juſtly blames the *Empiricks* for thinking that Anatomy, and a Knowledge of the Structure and Uſe of the different Parts of the Body, and reaſoning from Obſervations, in order to know the Cauſes and the right Method of curing Diſeaſes, were of no uſe: And the *Dogmatiſts*, for pretending to explain ſome things, which their then Knowledge of the animal Oeconomy, without knowing it better, and the Laws of Motion alſo, they could not explain; therefore they run into ſubtile Diviſions and nice Diſtinctions, in order to explain them by the Principles of their favourite Philoſophy, which rendered their Reaſoning ſpecious, but fallacious, erroneous, and often unintelligible, or inconſiſtent with the Actions and Operations of *Nature*, which *he* juſtly blames, and then judiciouſly concludes with ſaying, "*Igitur, ut ad propoſitum meam redeam, Rationalem quidem* "*puto Medicinam eſſe debere: inſtrui vero ab* "*evidentibus Cauſis*[g].

There were ſeveral other Phyſicians of both theſe *Sects*, whoſe Works are loſt, except what Extracts were taken from them by *Soranus*, which we now only have in *Cælius Aurelianus*, to whom I ſhall refer my Readers.

The Practice of Phyſick, which had continued till this Time to be performed by the ſame Perſon in all its Branches, was now divided into *three* diſtinct Profeſſions, the *Dietetick*, the *Chirurgick*, and the *Pharmaceutick*, which have ever ſince continued to be ſeparate Profeſſions, and practiſed by the *Phyſician*, the *Surgeon*, and the *Apothecary*.

It appears that the *Romans* were unacquainted with the *Arts* and *Sciences*, before they extended their Conqueſts into *Greece* and *Ægypt*; and the Phyſicians, which they had before that Time, only practiſed in the empirical Manner, as the People of other Nations did in the firſt Ages, though they were a warlike, politick, but a rude illiterate People, as appears from their own Hiſtory, till they conquered ſome Parts of *Greece*, and brought ſome of the *Grecian* People, which they had ſo conquered, into *Slavery*; among which there were not only their greateſt *Princes and Generals, but their Philoſophers and Phyſicians.* Hence ſome Authors have ſaid, that their *Slaves* were their *Phyſicians*, and their *Slaves* taught their *Maſters* the *Arts* and *Sciences*, though they could not diveſt them of their Superſtitions.

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[g] Celſus in Præfat. ſub finem.

A. M. 3731, and about 217 Years *ant. Chr. Areagathus*, a *Greek* Phyſician, came to ſettle at *Rome*, and firſt brought the *Greek Practice of Phyſick* thither, where he had great Marks of Diſtinction paid him; but when he came to uſe the *Knife* and *Cautery*, it ſo offended them, that it is ſaid they baniſhed him, and rather choſe to make uſe of Charms, and their own plain empirical Practice, and ſuch Phyſicians as they had of their own; neither had they any others, till above a hundred Years after this.

The *Phyſicians* in *Greece* having embraced the various different Syſtems of Philoſophy, which had been invented ſome Years before in their Country, and introduced them into the different *Theories of Phyſick*, which they had formed from, or by the Aſſiſtance of them, and thereby cauſed many Diviſions into various *Sects* among them, as before obſerved. The plauſible Appearances of their new-faſhioned Method of philoſophical Reaſoning, which they had introduced into their new *Theories* of Medicine, cauſed many to depart from the ancient *Hippocratic* Method of *Practice*. Though we may very juſtly wonder how any thinking judicious Phyſicians could ever depart from ſo ſure a Guide as *Nature* is, and from ſo rational a *Theory* and judicious a *Practice* as that of *Hippocrates* was, for the ſake of imaginary Hypotheſes, how plauſible and philoſophical ſoever they might appear to be. But alas! Such is the reſtleſs Diſpoſition of the human Mind, and ſo exceeding fond are the Generality of Men of Novelty and Faſhion, that they neither will adhere to known Truths, nor purſue the moſt rational Methods of obtaining the Knowledge of thoſe which are as yet unknown; but every new Syſtem of Philoſophy, true or falſe, muſt be embraced and introduced into the liberal *Arts* and *Sciences*, eſpecially into the *Medical*.

Hence we find, that moſt of the Syſtems of Philoſophy, which have been invented in different Ages and Nations, when they were in vogue, were introduced into the Arts and Sciences, and eſpecially into the Medical. And inſtead of only taking ſuch of their Principles or Parts, as would enable Phyſicians to diſcover and account for the Cauſes of Diſeaſes, and the Methods of curing them, as *Hippocrates* did, they formed Diſeaſes, and their Cauſes, to the Principles of their Philoſophy, which were only imaginary or hypothetical; or at leaſt endeavoured to do ſo, and ſo led themſelves and others into Errors.

And there never have been wanting Men of Parts and Genius, to introduce ſuch hypothetical Principles in any Age; becauſe it is much more eaſy to form ſuch plauſible imaginary philoſophical Hypotheſes, than it is diligently to obſerve the Progreſs of Diſeaſes, and their Symptoms, and carefully to watch, follow, and aſſiſt *Nature*; as this requires both more Time, Application, and Induſtry, as well as greater Penetration, more Judgment, and a more extenſive Knowledge of *Nature*, and her manner of acting, in order to know *her* Indications, and how to aſſiſt *her* in the right Method of curing Diſeaſes. And there have been others, who from too much Indolence or Pride, to ſervilely watch and follow *Nature* in ſuch a manner, or were in too great haſte to be rich, and being puſhed on by Vanity and Conceit of their own

Abilities, have ſet themſelves up for Reformers of the medical Art; and having by much Flattery and great Complaiſance, and ſome other low Arts, acquired a great Name, have impoſed themſelves upon the Credulous and the ignorant Vulgar, for Men of ſuperior Abilities, and have ſo gained much Practice.

Such was the noted *Aſclepiades of Pruſa in Bithynia*, who came to *Rome* in the latter End of the Thirty-ninth Century, about 60 Years before the Birth of CHRIST, who firſt ſet himſelf up as a *Rhetorician*; but not ſucceeding according to his Deſire, he applied himſelf to the *Practice of Phyſick*, which he probably had ſtudied before: But as he had embraced the Corpuſcularian Philoſophy of *Epicurus*, which had been brought to *Rome* a little before that Time [a], and was then new, and much in faſhion there; and as he found that *Arcagathus* had been baniſhed from thence almoſt a Century before, being a *Greek*, and his Practice being thought too ſevere or cruel, it was much diſliked, and generally diſapproved of, he not only ſet himſelf up to oppoſe the Practice of that *Greek* Phyſician, but of all others; but as a Reformer of the ancient *Hippocratick Doctrine* alſo, which had ſtill maintained its Ground among the more Judicious, eſpecially in *Greece*, from *his*

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[a] See Le Clerc. Hiſt. de la Med. p 392, &c. Lucret. Plin. &c.

his, till this Time: But *Aſclepiades* being a Man of great imaginary Abilities, and a good Share of Eloquence, and having his Head filled with the Principles of that new and faſhionable Epicurean Philoſophy, he formed a *new Theory of Phyſick*, agreeable to the *Principles* of that Philoſophy, and attempted to account for the different Natures, Cauſes, and Symptoms of Diſeaſes, and to explain the Manner of their Production, by the Principles of this new revived Doctrine of *Corpuſcles* and *Pores* of *Epicurus*, without either knowing the *Laws of Motion of Matter*, or giving himſelf the Trouble of obſerving the Motions and Actions of *Nature*, or whether his Inductions were conſiſtent with and conformable to what ſhe really did, or indicated to be done or not; as that was too ſervile and laborious a Work for ſuch a ſublime Genius as his was. He only changed the Epicurean Names of *Atoms* to *Corpuſcles*, and *Vacuum* to *Pores*, and by theſe pretended to explain the Cauſes of all Diſeaſes, by the different Figures, Number, or Magnitudes of them; he denied the Doctrine of Attraction, even of the Magnet and Iron; and oppoſed all the Opinions and Practice of the Ancients, and even of *Hippocrates*, and treated them with Contempt, and in ridicule called *his* Works *a Meditation upon Death.* He was much againſt Purging, as being offenſive to the Stomach, and was as fond of Clyſters: Theſe, Abſtinence, Exerciſe, Bleeding, Water and Wine, were his chief Favourites in Practice; and as his chief Intention was to gain the Favour of, and to pleaſe the People, more than really to improve the Art, he oppoſed the Practice of *Hippocrates*, and all the other *Greek* Phyſicians, and particularly that of *Arcagathus*, which was then much diſliked there; he therefore ſtudied how to make his Medicines pleaſant, and every thing as agreeable to the People as poſſible; by that, and recommending Baths, Cradles, and ſuſpended moving Beds, he amuſed them very artfully; by which, and his vain Boaſting, and reflecting upon the Practice of other Phyſicians, aſſiſted by the ſubtile Jargon of his plauſible Philoſophy, and his Complaiſance, and other low Arts, he ſo far ingratiated himſelf into the Favour of the People, that he gained a great Name, and a very extenſive Practice.

Although he oppoſed the Doctrine of the Ancients, and of *Arcagathus*, and thoſe of his Cotemporaries, with theſe ſelf-intereſted Views; as alſo *Hippocrates*'s Obſervations on *Nature*, and the *critical Days*, &c. which he probably neither obſerved nor underſtood, becauſe he ſays *Nature* did nothing good or bad, and what was done by her was only the Effect of his *Corpuſcles* or *Atoms*, and their Motion[b]; and though he ſays no Effect was produced without a Cauſe, yet he gives no Cauſe of their Motion. But as he made no real Diſcoveries or Improvements in the medical Art, except his making Inciſions in the Legs in an Anaſarca or a Dropſy, to evacuate the Water; but, on the contrary, prevented or hindered the making any, either by himſelf or others, by introducing that corpuſcularian Philoſophy into his abſurd Theory of Phyſick; as it prevented others from purſuing the rational and judicious Method which *Hippocrates* uſed, and by which it was and might have been improved: And the more judicious Phyſicians, who came after him, ſoon ſaw the Abſurdneſs and Falſeneſs of his imaginary hypothetical Syſtem of Phyſick, ſo that it died almoſt with himſelf, as all ſuch Hypotheſes ſhould do.

He was ſucceeded by his no leſs noted Scholar *Themiſon*, who happened to have ſo much Senſe, as to ſee the Errors and Falſeneſs of his Maſter's philoſophical Theory; but either had not ſo much Penetration and Judgment, as to ſee the Truth of the rational and judicious *Theory* and *Practice* of *Hippocrates*; or not ſo much Application and Diligence, as to obſerve, follow, and aſſiſt Nature, in that judicious

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[b] Cæliu Aurel. de Morb. Acut. L. 1. C. 14. Le Clerc. Hiſt. de la Med. p. 395, &c.

Manner which *he* did. Wherefore he both rejected all Philoſophy and all *Theory*, and even all Reaſoning alſo, out of his medical Syſtem; and invented one which was without either Theory or Reaſoning, if not Reaſon alſo; and pretended that it would render the Practice of Phyſick eaſy to all Capacities, without the Trouble of either obſerving *Nature* or Reaſoning.

And in order to ſhorten his Work, and make it ſtill more eaſy, he reduced his imaginary Syſtem of Diſeaſes into three Heads, viz. *Adſtriction or Contraction, Relaxation, and both theſe mixed* [c]. And ſuppoſed that all Diſeaſes were of the Nature of the one or other of theſe three; what Cauſe ſoever they proceeded from, whatever Nature they were of, whatever Seaſon of the Year they came in, whatever Symptoms attended, or what Part of the Body they affected, or what Age and Conſtitution the Patient was of, they muſt be of the ſame Nature with ſome one of thoſe three [d]; and therefore were to be treated in the ſame manner as ſome one of them.

Therefore he formed his Practice agreeable to his imaginary Theory, (for ſo we muſt call it, though he pretended to have no Theory, and that it was not neceſſary to inquire into, or to know the Cauſes of Diſeaſes [e]) and made it to conſiſt of three Things alſo, viz. *Bleeding*, *Purging*, and *Cold-water*.

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[c] Celſus in Præfat. p. m. 15. Et quidem horum tria genera eſſe, unum Adſtrictum, alterum fluentis, tertium mixtum.—Horum Obſervationem Medicinam eſſe, &c.

[d] Le Clerc. Hiſt. de la Med. p. 440.

Cælius Aurelianus tells us [f], that he gave Purges in all Diſeaſes, and ordered Bleeding and Purging at any time of the Diſeaſe, without any Rule or any Regard to the Indications of Nature; ſo that it is no wonder that his Practice was as unſucceſsful as the Poet *Juvenal* repreſents it, when he ſays,

> " *Quot Themiſon Ægros Autumno occiderit*
> " *uno.*"

He is the firſt that mentions Bleeding with *Leeches* [g]; and that gave us the Deſcription of making *Diacodium* from the Juice of, or by making a Decoction of the Poppy-heads and Honey; and he alſo mentions the Purgative called *Hiera*, but whether it was the ſame as that now in uſe, is uncertain. He is alſo ſaid to have been the Founder of the *Methodiſt Sect* [h], who alſo reject all Reaſoning on the Cauſes of Diſeaſes, and all *Theory* of them; and pretended to find out an eaſier Method of both knowing and curing Diſeaſes, as above, from whence they were called *Methodiſts*. They differed from the *Dogmatiſts*, as they rejected all Reaſoning; and from the *Empiricks*, in reducing the Number of Diſeaſes, and

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[e] Idem. Ibid. p. 439.

[f] Cælius Aurel. de Morb. Acut. & Chron,

[g] Idem. Ibid. Acutor. L. 3. C. 3. in Cap. de Cephalea.

[h] Idem. Et Celſus in Præfat. p. 15.

and the Diſtinctions made in them by the laſt; but they thought Anatomy and Philoſophy intirely uſeleſs in the medical Art, as they gave themſelves no Trouble in inquiring into the Cauſes of Diſeaſes. *Themiſon* was born at *Laodicea,* ſtudied under *Aſclepiades,* and practiſed Phyſick at *Rome,* and purſued his Maſter's Method of Practice for ſome time, and did not form the *Methodiſt* Principles till the latter Part of his Life; and died in *Auguſtus*'s Reign.

Themiſon had ſeveral Followers; as *Theſſalus* of *Tralles,* who was more remarkable for his maletreating and abuſing other Phyſicians, than for any Improvements that he made in the Art; though he is ſaid to have been the Inventor of the *Metaſyncriſis,* and what were afterwards called the *Metaſyncritick Medicines,* which were pretended to make a total Change of the Humours, Pores, and of the Body [i]; a Word which had more Sound than Meaning, or than the Medicines had Effects: And he is ſaid to have introduced, or rather eſtabliſhed, [k] the *three Days Abſtinence* in *Fevers,* which the *Methodiſts* uſed.

But the moſt eminent among the *Methodiſt Sect,* was *Soranus* of *Epheſus,* who lived ſome time at *Alexandria,* and then came to *Rome,* where he practiſed Phyſick in the Reigns of *Trajan* and *Adrian,* towards the latter End of the firſt, and the Beginning of the ſecond Century of the *Chriſtian Æra*; and is ſaid to have been the moſt able Phyſician of that *Sect*: His Works, in the original *Greek*, are loſt; but *Cælius Aurelianus* has given a Tranſlation of them into *Numidian Latin*, which we ſhall take notice of when we come to ſpeak of him, after making ſome Obſervations on thoſe who lived after *Themiſon*, and before *him*.

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[i] Vide Cælium Aurelian. de Morb. Chron. L. 1. Cap. 1.

[k] Aſclepiades uſed it before.

After *Soranus*, the *Methodiſts* became very numerous; but as they neither inquired into the Cauſes of Diſeaſes, nor obſerved Nature, nor would reaſon from them, ſo as to obtain the true Knowledge of them, it cauſed Diviſions to ariſe among them; and ſome other Sects alſo aroſe among them, as the *Pneumatick*, *Epiſynthetick*, and *Eclectick*; if theſe may be called *Sects*, though they differ from ſome of the former, more in the Uſe of Terms and Words than in Facts: For, if we change the Word ϖνεῦμα, *Spirit*[1], for φύσις, *Nature*, the Difference between the *Pneumaticks* and *Dogmaticks* will not be very material, as they ſeem to mean the ſame thing by them, as they both reaſoned nearly in the ſame manner upon Diſeaſes; and the *Eclecticks* did the ſame, and choſe from them all what was the moſt rational and beſt. However, the *Dogmatiſts* adhered

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[1] Hence ϖνεῦματίκος, Spiritual.

to the rational *Hippocratick* Method ſtill; and *Leonides* of *Alexandria* thought the Differences among them ſo immaterial, that he endeavoured to reconcile and unite all the three *Sects* together, viz. the *Dogmatiſts*, *Empiricks*, and *Methodiſts*; and from this Attempt, his Followers were called *Epiſyntheticks*; though it ſeems more eaſy to unite the *Dogmatiſts*, *Pneumaticks*, and *Eclecticks*, as the real Difference between them is very immaterial.

The chief of the *Eclecticks* (unleſs you think *Celſus* was one) was *Archigenes* of *Apamea* in *Syria*, in the Time of *Trajan*; he died at *Rome*. And *Athenæus* of *Attalia* was the Chief of the *Pneumatick* Sect; he ſuppoſed that *Fire*, *Air*, *Water*, and *Earth*, were not the true *Elements*, but the efficient Cauſes of Things, and that the four *cardinal Qualities* were the material Elements; and that *Spirit* penetrated all Bodies, and kept them in their natural State: (if he had ſaid *Fire* inſtead of *Spirit*, he had been nearer the Truth) But as their Works are all loſt, I ſhall ſay no more on them, but paſs on to,

Aurelius Cornelius Celſus, a noble *Roman*, who properly was of no *Sect*, though *he* came the neareſt to the *Dogmatiſts*; and if we call *Hippocrates* the Head of that *Sect*, we may ſay *he* was one alſo, as *he* principally adhered to and followed *his* rational Method of *Practice.*

Celſus was a Man of fine Parts, ſound Judgment, and univerſal Learning; and no leſs Eloquent, as his Style is ſo elegant, conciſe, and pure, that it has always been eſteemed the Standard of the *Roman* Tongue. His principal Favourite and Patron was *Hippocrates,* whom *he* generally followed with great Judgment, eſpecially in the *Dietetick* Part of his Practice, and in his *Prognoſticks* and *Surgery*; though he diſſented a little from *him* in his *critical Days,* as being too much influenced by the philoſophical Notions of *Pythagoras.* He ſometimes quotes, and followed, *Aſclepiades,* in regard to the Uſe of *Exerciſe,* but not in his imaginary philoſophical Theory, nor in his unreaſonable Averſion to Vomiting and Purgeing. And *Celſus* may be truly ſaid to have made conſiderable Improvements in *his Method of Bleeding in Fevers,* more than *Hippocrates* appears to have done; though in other Reſpects, except in his not ſo often uſing the ſtrong draſtick Catharticks, *he* ſeems to have followed his *Method,* in chiefly depending upon the dietetick Method and it, and uſed but few internal Medicines; but then we muſt conſider, that their *Diet in acute Diſeaſes* was *Medicinal.* *He* ſeems to have been the moſt rational, judicious, and the moſt able Phyſician that came after *Hippocrates*, and ſo judiciouſly followed *him*, in moſt of his Practice, (or where he differed from him, it was with ſo much Judgment and Reaſon) that *he* has been frequently called the *Latin Hippocrates*. *He* is ſuppoſed to have lived in the Reign of *Auguſtus*, or *Tiberius*, however in the firſt Century of the *Chriſtian Æra*, and moſt probably towards the Beginning of it; to which time we are now come.

Antonius Muſa was Phyſician to *Auguſtus Cæſar* at the Beginning of the *Chriſtian Æra*, and was cotemporary with *Celſus*; and is ſaid to have firſt introduced the Practice of Cold-bathing into the medical Art, which ſhould be underſtood only among the *Romans*; becauſe *Hippocrates* mentions both the *ψύχρα λούτρα*, and the *θέρμα λόυτρα*, cold and warm Bathing 450 Years before this: And it is now well known, that many extraordinary Cures have been performed by cold Bathing, in all Ages ſince.

There were alſo ſeveral other Phyſicians, who were Cotemporaries with, or came ſoon after them, which are mentioned by Dr. *Le Clerc*; but as we do not find that any of them made any Improvements in the medical Art, we ſhall paſs over them, and refer the more curious Reader to his learned and laborious *Hiſtoire de la Medicine*.

We likewiſe find that a School was founded in that Part of the City of *Rome* called *Eſquilia*, for teaching the *medical Science*; but what they did there, we have no Account of, nor whether they made any Improvements in the *Art*; unleſs we ſuppoſe that *Scribonius Largus*, who made ſome Improvements in the *Materia Medica*, and *Antonius Caſtor* in *Botany*, and *Fabius Papyrius* in *Natural Hiſtory*, were educated there, and made thoſe Improvements there, or ſoon after: And if any others did make any Improvements there, we never heard what they were. However, not long after this, the learned and induſtrious *Pliny* made many great Improvements in *Natural Hiſtory*, with ſome judicious Remarks on the State of *Phyſick* and *Phyſicians*, before, and at that Time.

But we find that, in that luxurious Age, many deſigning Men began to invent and prepare various *Noſtrums*, to which they gave very pompous Names, and thereby impoſed both them, and themſelves upon the ignorant luxurious People of that Age, as wonderful Medicines in all Caſes, and themſelves as no leſs extraordinary Men, and thereby gained great Riches; and he that gave the moſt pompous Name to his *Noſtrum*, and boaſted the moſt, was thought the greateſt Phyſician, and acquired the moſt Riches: This elated them, and cauſed them to thirſt after Titles; and *Andromachus*, who had acquired both by his *Theriaca*, was made *Archiater*, a Title which was never heard of among Phyſicians before this. The above-mentioned Diviſions, into ſo many different *Sects* and *Parties*, among the Phyſicians of that Time, and ſo much quacking of their *Noſtrums*, made every one be of one *Sect* and *Party*, or another, except *Celſus*, whoſe Learning, and great Prudence and Knowledge, induced him to reject and deſpiſe ſuch Conduct, whilſt moſt others were acting as Quacks have done in all Ages, and as ſome do now in this no leſs luxurious and faſhionable Age; wherein the greater Part of Mankind are governed and led by Faſhions, how weak and ſilly ſoever they may be.

About this Time, viz. in the Emperor *Claudius*'s Reign [a], a new Diſeaſe appeared at *Rome*, which *Pliny* calls *Mentagra* [b], and ſays, that their Phyſicians were at a great Loſs to know how to cure it; no wonder therefore that they ſent to *Ægypt* for Phyſicians, who came, and by the Help of *Cauteries* got the better of it; but *Pamphilius*, a *Roman* Phyſician, found a Medicine afterwards that cured it as well. From whence we may conclude, that accurate Obſervation and juſt Reaſoning, in the *Hippocratick* Method, were forgotten and entirely laid aſide: But if it be allowable to make a Conjecture from ſo ſhort and imperfect a Deſcription as they have left us of that Diſeaſe, it ſeems to be the moſt reaſonable to ſuppoſe that this Diſeaſe was that Kind of *Lepra* which is deſcribed by *Hali Abbas* [c], which we now call by the *African*, or *Negro* Name, the *Yaws*; and moſt probably was the *Lepra* of the *Jews*, as it ſo nearly reſembles it, and moſt probably was brought from *Ægypt*, where and in moſt Parts of *Africa* it is indigenous to this Day, eſpecially as they ſent for Phyſicians from thence to cure it.

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[a] He reigned from A. D. 41. to A. D. 54.

[b] Plin. Hiſt. Nat. Lib. 26. Cap. 1.

Galen ſays that one *Marinus*, a Phyſician, who lived in *Tiberius*'s Reign, made ſome conſiderable Improvements in *Anatomy*, and wrote well on the *Muſcles*, and on ſome other Parts of the Body; but his Works are all loſt. As alſo did *Rufus Epheſius*, who was his Cotemporary; ſome Part of whoſe Works are ſtill remaining, and ſhew that he was a good Phyſician.

Cotemporary with him, and in the Reign of *Veſpaſian*, lived the famous *Dioſcorides* of *Anazarba*, whoſe Works are come down to our Hands: He was both a great *Botaniſt*, and a very able *Phyſician*, and made many great Improvements in the *Materia Medica*, not only in deſcribing all the medicinal

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[c] Hali Abbas Theoria, Lib. 8. Cap. 16. See Obſervat. on the Air and Weſt-India Diſeaſes, p. 339.

Plants, but the Shrubs and Trees, from whence various Gums, and other medicinal Drugs are procured, eſpecially thoſe that were then uſed and known; and moſt of the aromatic Spices, Seeds, *&c.* He is the firſt that mentions *Antimony*, *Cinnabar*, and *Quick-ſilver*, and ſeveral other Preparations from Metals, as, *Minium*, *Ceruſe*, *Verdigris*, &c. though theſe were all uſed externally only at that Time; and he alſo mentions a Sort of *Salt* made from *Vipers*, by burning them under a cloſe Cover, which he uſed in his *Theriaca*.

Theophraſtus, who lived about 370 Years before him, and was a great *Botaniſt*, had written more fully upon Plants, as a natural Hiſtorian; but *Dioſcorides* wrote as a *Phyſician*, and propoſed to treat of nothing but thoſe whoſe medicinal Virtues he had experienced, and all ſuch as were then uſed in the Practice of Phyſick; and it is ſaid that he was ſo deſirous of knowing their real Virtues and Effects, and of writing nothing but what he knew by Experience was true, that he frequently tried their Effects upon himſelf, in order to diſcover and certainly know their medicinal Uſes, or their pernicious Effects, and at laſt was poiſoned by taking a Doſe of the *Aconitum*, or *Solanium Lethale*; and that he even deſcribed the Effects which it had, and the Symptoms which it produced, till he laid down his

Pen and expired his laſt Breath: And thus he loſt his Life, by endeavouring to diſcover the Means of preſerving the Lives of others. It is alſo ſaid that he firſt mentions *Sena*, *Manna*, and *Sugar*, but theſe were not known to the ancient *Greeks*, but were diſcovered by the *Arabians*; and the Account of theſe now in his Works are not his, but are ſuppoſed to be foiſted in by ſome later Hand: However, it is certain that he greatly improved and enlarged the *Materia Medica*, as *Pliny* did about the ſame time enlarge and improve Natural Hiſtory.

Celſus, *Dioſcorides*, and *Pliny*, were ſoon followed by *Galen*, who was born at *Pergamus*, A. D. 131, in the Reign of the Emperor *Adrian*. He had a very liberal Education, and was a Man of fine ſubtile Parts, and much Learning; and after ſtudying under ſeveral eminent Philoſophers, and ſome Phyſicians, he went to *Alexandria* in *Ægypt*, then the moſt eminent School in the World for all the Sciences: There he ſtudied Anatomy and Phyſick, then travelled a little into the Eaſt, and returned to *Pergamus* at the Age of 28; from whence he came to *Rome*, in the 32d Year of his Age, A. D. 163, where he met with ſo much Oppoſition from the Faculty, for pretending to know more than them, or what they did not know, ſo that he was obliged to leave *Rome* four or five Years after, and returned

turned to *Pergamus*, where he was not long before he was ſent for by the Emperor *Marcus Aurelius*, and *Lucius Severus*, who was Emperor afterwards; and he came to *Rome*, where he continued till he died, when he was grown very old.

The Phyſicians then at *Rome* ſtill continued to be much divided into different *Sects* in the *medical Art*, and no leſs ſo into Parties, in their philoſophical Opinions; tho' the *Methodiſts* ſeem to have been in the greateſt Vogue in *Phyſick*, and the *Stoicks* in Philoſophy; the *Dogmatiſts* were alſo much divided among themſelves, ſome crying up *Hippocrates*, others *Eraſiſtrates*, and ſome few *Aſclepiades*; the two firſt ſeem not to have differed much from each other; but the Philoſophy of *Aſclepiades* was too erroneous, and his Application of it, in his *Theory*, was much worſe.

Galen being much more learned, and a Man of finer Parts, though he joined with none of them, yet he having greater Penetration, ſaw that the *Doctrine* of *Hippocrates* was the moſt juſt and rational, and *his Practice* the moſt judicious; therefore he generally purſued the laſt.

And notwithſtanding that he had ſtudied, and very well underſtood the rational and judicious *Theory* and *Practice* of *Hippocrates*, as it evidently appears he did, from his explaining ſeveral of the moſt difficult Paſſages of *his Works*, as well, or even better than any other of *his* Commentators have done, eſpecially when he obſerved and followed *Nature* therein, as he generally did in his Practice: If he had as ſtrictly purſued that rational and judicious Method of obſerving Diſeaſes, their Progreſs, and Symptoms, and had as carefully obſerved and followed *Nature* as *Hippocrates* always did, and had reaſoned as juſtly and truly from thoſe Obſervations, in his own *Theory* of Diſeaſes, as that *Father of Phyſicians* did, or even as well as he did himſelf in his Practice, and in thoſe Explanations, no doubt but he would have made ſeveral great Improvements, both in the *Theory* and *Practice of Phyſick*. But unfortunately for both him and all his Followers, the *Peripatetick Philoſophy*, as it had been refined and ſubtiliſed by *Ariſtotle*, having been brought to *Rome* ſome Years before, and was then much in Faſhion; and *Galen* being a Man of much Learning, and of as ſubtile a Genius as *Ariſtotle* was, and as great an Admirer of that Philoſophy alſo, he readily embraced it; and being as fond of and as much in love with the fine ſubtile Diſtinctions of his *Elements*, *Temperaments*, *Occult*, and *Cardinal Qualities*, and his no leſs *ſubtile Diviſions of the Humours of the Body*, he attempted to introduce them, and all the imaginary Subtilties of that *Philoſophy*, into his *Theory of Phyſick*: And by the Aſſiſtance of them, he attempted to explain and account for the Cauſes, and the Manner of the Production of Diſeaſes, by and agreeably to the Principles of that Philoſophy, without ſufficiently obſerving and enquiring whether thoſe his imaginary ſubtile Diviſions of the Elements, Temperaments, and of the Humours, really exiſted, and were made in the Body by *Nature* or not; or whether thoſe their imaginary Actions and Effects, which he ſuppoſed they did produce, were perfectly conſiſtent with the Actions and Operations of *Nature* in the Body, and conformable to what ſhe really did, or not; by which he has frequently rendered his *Theory of Diſeaſes* ſo myſterious and ſublime, that in ſeveral Places it is no better than an unintelligible myſterious Rhapſody of hard Words, which have no Agreement with Nature, or what ſhe does. So likewiſe, by the Uſe of his fine-ſpun Diviſions of the Humours, and his Elements and Temperaments, aſſiſted by his occult Qualities, he has explained ſome Paſſages in the Works of *Hippocrates*, into a no leſs incomprehenſible ſublime Miſt, and then leaves his Readers to get out of that dark Fog as well as they can; although he has explained ſome other Paſſages ſo very well. Such is the Frailty of human Nature, that moſt Men have their Foible, and that of this great Genius was, his being ſo much in love with the *Ariſtotelian Philoſophy*, which was then ſo much in faſhion at *Rome*, that he formed all his *Theory* of Diſeaſes, and his Method of accounting for their Cauſes, and Manner of their being produced, and ſometimes for his Method of curing them alſo, agreeably to the Principles of that Philoſophy; though to do that tolerably well, he was often obliged to form imaginary Hypotheſes, and invent ſuppoſititious *Data* to reaſon from; the Truth of which were neither founded upon Obſervation or *Nature*, nor were they conformable to her Manner of acting, and ſometimes were ſuch as had no Exiſtence, but in his own Imagination; wherefore he was obliged to ſupport them, and his Method of Reaſoning, by his ſubtile Definitions and imaginary Diviſions of his Elements, Temperaments, and occult Faculties, and cardinal Qualities of the Humours, aſſiſted by a plauſible ſubtile Method of philoſophical Reaſoning, to make all Things and Opinions conform to the Principles of that erroneous Philoſophy.

Thus the rational and judicious Method of accurately obſerving Diſeaſes, and *Nature*, and reaſoning juſtly from them, according to the *Hippocratick* Method, being intirely neglected, they began to form fine Speculations and imaginary Hypotheſes, which were neither conſiſtent with the *Laws of*

Motion of Matter, nor the *Laws of Motion of Fire*, nor conformable to the Motions and Actions of *Nature* or Facts (as thoſe Laws were not then known). Wherefore he, by forming thoſe fine plauſible Hypotheſes, did not only lead himſelf, but all ſucceeding Phyſicians that would follow him, as too many have done ever ſince, into many great Errors and Miſtakes: But what is ſtill much worſe, by their having ſo much of the Appearance of being true, they diverted both *him* and *them* from purſuing the *Hippocratick* Method, by which they might have made many uſeful Diſcoveries and great Improvements in the medical Art, as *Hippocrates* did; and as ſeveral eminent Phyſicians have done ſince the *Philoſophy* and *Theory* of *Galen* have been exploded.

As *Galen* was a Man of Genius and great Learning, as well as great Induſtry, he is ſaid to have written above five hundred Books in Phyſick, and near half as many more in Philoſophy, and the other Sciences: His Education and great Abilities ſet him above the Level of his cotemporary Brethren, which induced him to take too great Liberties with them and their Deficiencies, and probably rendered him too ſelf-ſufficient; which conſequently procured him their Ill-will, and much Trouble from them, and probably was the Cauſe of his leaving

Rome; but being ſent for by the Emperor, it replaced him above them and their Malice, though they might give him ſome Trouble.

And although we can ſay nothing in favour of his Philoſophy, and may wiſh that he never had either invented or publiſhed his *Theory of Phyſick*, yet we muſt allow that he made ſome conſiderable Improvements, both in *Anatomy* and the *Materia Medica*, and when he adhered to the *Hippocratick Method*, in the Practice of Phyſick alſo. No doubt but he had ſeen human Bodies diſſected at *Alexandria*, though that was not allowed of at *Rome*; yet what he had ſeen there, he improved by diſſecting Apes, and other Animals, though he was led into ſome Miſtakes thereby, as the learned Anatomiſt *Veſſalius* judiciouſly obſerves[a], yet he made ſome conſiderable Improvements in that Science, and more in the *Materia Medica*: He improved the Uſe of Opiates and Anodynes, and the Practice of Bleeding in Fevers, in ſome inflammatory Caſes, and appears to have bled more freely, and in greater Quantities, than they did before his Time; and he is the firſt that wrote profeſſedly on the *Pulſe*, and diſtinguiſhed its various different Vibrations, *&c.* but in his *Reaſoning upon them*, as well as upon the *Virtues and Effects of Medicines*,

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[a] Vide Veſſalii Opera Anatom. paſſim.

as alſo upon both the more ſimple, and his too much compounded Preparations; the Operations of all which he pretended to account for, by the Aſſiſtance of his *Peripatetick* philoſophical *Principles*, which generally led *him* into Errors and Miſtakes, or elſe into ſuch ſublime myſterious Diſtinctions and minute philoſophical Diviſions of his *Elements*, *Temperaments*, and *Cardinal Qualities*, as either rendered his Reaſoning quite unintelligible or uſeleſs.

So that notwithſtanding that he made ſome of theſe conſiderable Improvements in the medical Art, yet we muſt confeſs that he did more Injury to the Profeſſion, and hindered its Progreſs and Improvement, more by his inventing and introducing his imaginary Hypotheſes and his unintelligible ſubtile Diviſions of his *Elements*, *Temperaments*, and *Cardinal Qualities* into his *Theory of Phyſick*, than any other Phyſician ever did; ſo that he may be looked upon as the firſt and chief Introducer of imaginary *philoſophical Hypotheſes* into the *Theory of Phyſick*: For as to the Hypotheſes of *Aſclepiades*, and the Notions of *Themiſon*, and the *Methodiſts*, without reaſoning, they were ſo abſurd and inconſiſtent with both *Nature* and *Reaſon*, and with the rational and judicious *Theory* and *Practice* of *Hippocrates*, that they were rejected and exploded by the more rational and judicious Phyſicians of all Ages; and as for the Opinions of the other *Sects*, they generally ſunk into Oblivion, with the Philoſophy whoſe Principles they were each founded upon. But both the *Philoſophy* of *Ariſtotle*, and the *Hypotheſes* and *Theory* of *Galen* built upon it, were ſo plauſible, and carried ſuch an Appearance of true Reaſoning, and ſuch an Air of Truth with them, joined to ſo much ſubtile Reaſoning, which rendered them ſo agreeable to the Principles of the *Ariſtotelian Philoſophy*, which was then and many Ages after ſo much in faſhion, that they eaſily deceived and impoſed themſelves upon all Mankind, and were received by them as being true, both then and many Centuries after.

And accordingly we find from the Works of all the ſucceeding Phyſicians and Philoſophers, that not only the Philoſophy of *Ariſtotle*, but the new philoſophical *Theory of Phyſick* of *Galen* were generally received and followed by all; not only at *Rome* and in *Italy*, but they were both carried a few Centuries after into *Arabia*, *Perſia*, and *Ægypt*, and they only were profeſſed there; and ſoon after were brought into *Spain* by the *Saracens*, and were ſpread ſoon after that into all the *European Nations* that retained, or had any Learning, and were received, profeſſed, and taught in all their moſt noted *Schools*, and continued to be ſo till the ſixteenth Century, or after, when the great Lord *Verulam* detected the Errors of that Philoſophy, and inſtructed Mankind how to think and how to reaſon, in order to diſcover and know Truth.

Cotemporary with *Galen* was *Cælius Aurelianus*; he made a great Figure at *Sicca*, a City in *Numidia* in *Africa*, A. D. 180 [a]. His Book on *Acute* and *Chronical Diſeaſes*, is generally allowed to be a Tranſlation of the Works of *Soranus* of *Epheſus* from the *Greek*, as he ſays himſelf [b]. He is the only Author now extant that gives us any tolerable Account of the Works of thoſe ancient Phyſicians, who were of the *Methodiſt Sect*; as, *Diocles Cariſtus*, *Praxagoras* of *Coos*, *Eraſiſtratus*, *Herophilus*, *Serapion* of *Alexandria*, *Heraclides Terentinus*, *Aſclepiades*, *Themiſon*, *Theſſalus* of *Tralles*, and *Soranus*; whoſe Works are now all or moſt of them loſt; but *he* has given us many Quotations, and ſome conſiderable large Extracts from them, and a pretty full Account of their Principles, and their general Method of Practice, from whence we may form a tolerable Judgment of their Method of treating Diſeaſes.

They were pretty exact in diſtinguiſhing, and deſcribing the Symptoms of Diſeaſes; but they objected againſt all Reaſoning, and enquiring into the *Cauſes of Diſeaſes*, or into the Structure and Uſe of the ſeveral Parts of the Body that were affected in Diſeaſes, in order to find out their Cauſe, or to diſcover the moſt judicious Method of curing them by Reaſoning, unleſs the Cauſes were ſelf-evident, which very ſeldom happens, except in ſome few particular Caſes: In this they ſeem not to differ much from the *Empiricks*. But they thought that all Diſeaſes were of one of thoſe three Kinds before-mentioned[c], and therefore ſhould be treated in the ſame Method as ſome one of thoſe three.

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[a] See Dr. Le Clerc. Hiſt. de la Med.

[b] Cæl. Aurel. de Morb. Acut. Lib. 2. Cap. 1.

Both *Soranus*, *Cælius*, and all the *Methodiſts* in general, frequently uſed Vomiting, Bleeding, Fomenting, Anointing, and preſcribed various Kinds of Exerciſe; and were particularly careful in their Choice of the Air for the Sick, as in directing a large cool Chamber for them, in hot inflammatory Diſeaſes in a hot Seaſon, which they alſo cooled more, by ſtrowing green Leaves, or ſprinkling Water in it to cool it[d], (a Practice which the learned *Boerhaave* alſo recommended[e] in his Lectures, and to which he alſo added the placing ſuch Plants as exhale much in Jars of Water in the Room of the Sick, and which I have often uſed with great Advantage, both in the hot

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[c] See before p. 84, 86. &c.

[d] Cælius Aurel de Morb. Acut.

[e] In Prælect. in Aph. 743, & 866, 890, &c. &c.

Climate, and in the warm Seaſons in *England.)* They alſo ordered a cloſe warm Chamber, made warm by the Sun or a Fire, in cold Caſes.

But they were too much averſe to *Purging,* (except in a *Dropſy)* and to ſharp *Clyſters, Diureticks,* and *Narcoticks,* and the Uſe of *Cauteries,* and all painful Remedies, (which laſt they probably took from *Aſclepiades.)* They alſo objected againſt all Specificks, which when enquired into is only another Term for our Ignorance, or we know not how they act. They generally ordered a ſtrict Abſtinence from all Food [f], liquid or ſolid, for three Days, at the Beginning of Fevers (an imprudent Practice) but ſome of them moderated this to two Days afterwards. It is very probable, that *Cælius* never ſaw any of *Galen*'s Works, nor *Galen* any of his, as they lived at ſuch a Diſtance from, and never mention each other. And notwithſtanding that they rejected all Reaſoning, his Works have many uſeful Remarks, and ſome good Methods of Practice in them; therefore thoſe who deſire to ſee them, may read his Works, which he would do with more Pleaſure, if they were tranſlated out of that barbarous *Numidian* Latin into *Roman* Latin.

It is uncertain at what time *Aretæus Cappadox* lived, though moſt probably about the time of *Domitian*, towards the latter End of the firſt Century; or what *Sect* he was of, as *Sects* were much in faſhion then at *Rome:* But as it is moſt probable that he lived at *Cappadox* in *Cappadocia*, and mentions no Authors but *Hippocrates* and *Homer*, and generally follows the Method of *Reaſoning* and *Practice* which the firſt did, he ſeems to come the neareſt to that which *Galen* makes *Hippocrates* the Head of, the *Dogmatiſts* [g]; and from his enquiring into, and reaſoning upon the Cauſes of Diſeaſes, and deducing his rational Methods of curing them [h], he ſeems to come the neareſt to them (if he muſt needs be of ſome Sect); however it is certain from thence, that he was neither *Methodiſt* nor *Empirick*. The learned Dr. *Le Clerc* makes him a *Pneumatick*, but the learned Dr. *Boerhaave* and Dr. *Wiggan* ſeem, after examining his Reaſons for it, and the Opinions of ſeveral other learned Authors, to leave the Matter as uncertain; neither is it material; probably Dr. *Le Clerc* thought ſo from *Aretæus*'s uſing the Word Πνεῦμα, *Spiritus*, in the ſame Senſe which the *Pneumaticks* did, as he does in ſome Places, as when he ſpeaks of the Angina Convulſiva [i], *&c.* [k] but in others he ſeems to uſe it in the ſame Senſe as *Hippocrates* uſed the Word Φύσις, *Nature*; ſo he alſo makes uſe of the ſame Methods and Medicines which the *Empiricks*, the *Methodiſts*, *Dogmatiſts*, and *Epiſyntheticks* did; and alſo choſe out ſuch Methods and Medicines as he thought were the beſt, and moſt proper for the Diſeaſe which he wanted to cure, as the *Eclecticks* did; and for the ſame reaſon we may conclude, that he was of all, or of any of thoſe *Sects*. But what is the moſt probable is, that he was neither of any of thoſe *Sects*, nor had ſeen any of their Works, or ſo much as heard of them, as he lived at ſo great a Diſtance as *Cappadox* in *Aſia Minor* was from *Rome*; as Books were not ſo eaſily got before printing was invented, nor were they ſo diſperſed over different Nations as they have been ſince; neither does he mention any medical Author but *Hippocrates*, whoſe Works he very well underſtood, and whoſe Method of Reaſoning and Practice he ſeems to have judiciouſly followed: For he muſt have accurately obſerved Diſeaſes, and all their Symptoms, as he has ſo elegantly and conciſely deſcribed them [1], that the Reader ſees the very Picture of the Diſeaſe, as if the Patient was before his Eyes, and with all the Elegancy and Politeneſs of the *Ionic Style*. In the whole *he* has followed and imitated *Hippocrates*, both in his Method of obſerving Diſeaſes, and has improved the Method of deſcribing them; as alſo in his Method of Reaſoning from their Cauſes, and the Parts principally affected in them, in his Practice; and he improved the Method of Bleeding in inflammatory Diſeaſes, and ſeems to have taken greater Quantities of Blood from his Patients, and repeated it oftener than *Hippocrates* did in thoſe Diſeaſes [m], and gives his Reaſons for it, though in a ſhort manner. He and *Galen* are the firſt that adviſed and uſed Arteriotomy. He is alſo the firſt that uſed Cantharides externally, to raiſe Bliſters, or as Veſicatories: And he firſt fully deſcribes the *Elephantiaſis*, or *Lepra Arabum*. He made ſeveral other new Improvements in the Practice of Phyſick; in all which he gives his Reaſons for ſo doing in a very conciſe and elegant manner: Therefore if he muſt be placed among ſome of the *Sects* then in vogue, he has the moſt right to be placed with *Hippocrates* among the *Dogmatiſts*; though in reality they were neither of them of any *Sect*, but both of them purſued a very rational and judicious Method of Practice, which was founded upon very accurate Obſervations, and a juſt Method of Reaſoning.

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[f] Cæl. Aur. Ibidem.

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[g] Galen de Method. Med. Lib. 3.

[h] Aretæi Opera in variis locis.

[i] Aretæi Capp. in Cap. de Angina, p. 5, &c.

[k] Idem. pag. 121. et p. 80, &c. &c.

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[1] Aretæi Cappad. de Cauſis et Sign. Morb. Acut. et de Morb. Acut. Curatione.

The learned Dr. *Daniel Le Clerc*, having with indefatigable Induſtry and much Learning favoured us with the Hiſtory of the firſt Riſe and Progreſs of the *medical Art*, and a very curious Account of the firſt Inventors and Improvers of it, from the time of *Hermes Treſmagiſtus* of the *Greeks*, the *Mercury* of the *Latins*, the ſame with *Thoth* of the ancient *Ægyptians*, and the *Pathruſim*, or *Canaan*, of the *Scriptures*, down to the Time of *Hippocrates*, a Space of 1350 Years, or more: And then with a learned and accurate Hiſtory of *Hippocrates*, and the Phyſicians who came after him, down to the End of *Galen*'s Time, about 600 Years more; in which he has given us ſo full an Account of their *philoſophical Opinions*, and their different *medical Theories* and *Syſtems*, as well as their various *Methods of Practice of Phyſick*, and the Improvements which they made therein, that there is ſcarce an Opinion, a Diſeaſe, a Medicine, or a Method of Cure, or even an *Author* to be met with any where among the Ancients, which he has not given us a full Account of, down to the End of *Galen*'s Time, whom he places ſome time after *Aretæus Cappadox*, though it is moſt probable that they were Cotemporaries: But I ſhall not ſpend my Time in critical chronological Diſputes, as it is of no Importance to the Improvement of medicinal Knowledge. But that learned Phyſician being called to a higher Office by his *Prince*, he had not Leiſure to proceed on with his *Hiſtory of Phyſick*,

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[m] Idem. Ibid. in Curation. Morb. Acut.

Phyſick, as he intended; he therefore drew up a ſhort Plan for the Continuation of it, to aſſiſt thoſe who might afterwards undertake the Continuation of it, in which there happens to be a few chronological Miſtakes, with which the learned Dr. *Freind* finds great Fault; but if the *Doctor* had been a little leſs ſevere in his Criticiſms upon it, it would have been better, as it was not intended as a Continuation of his Hiſtory, but only as a ſhort Plan for continuing it, (as he calls it) and probably was drawn up in haſte.

It appears from Hiſtory, that the *Roman* People of that and the preceding Age were arrived to an exceeding great Height in all Manner of Luxury, and continued to be ſo to the End and Downfal of the *Roman* Empire; and as Luxury and Effeminacy increaſed, Liberty, Learning, and all the Sciences decreaſed, which probably might help to haſten its Deſtruction. However after this Time, we meet with few learned Men at *Rome*, and no learned Phyſicians among the *Romans*, nor with any of their medical Works, and but with a very few indifferent Hiſtorians.

Thoſe few Phyſicians who lived after this Time, and all their medical Works which are come down to our Hands, were all *Greeks*, who were not ſuch Slaves either to *Luxury*, or their *Emperors*, as the *Romans* were to both, and to their *Popes* after them, as we ſhall ſoon ſee.

Let us then inquire what Improvements thoſe *Greek Phyſicians* made in the *medical Art*; and then inquire into the Cauſe why Learning, and all the *Arts* and *Sciences*, fled out of *Europe*, during ſo many Ages, into the *Eaſt*; and follow them thither, to ſee what Reception they met with in the Eaſtern Countries among the *Arabians*, *Perſians*, and other *Mohamedans*.

Thoſe *Greek* Phyſicians, whoſe Works are come to our Hands, from whence we only can know what Improvements they made in the medical Art, are, *Oribaſius*, *Ætius* of *Amida*, *Alexander* of *Tralles*, *Paul* of *Ægina*, and *Actuarius*.

Oribaſius was born at *Pergamus* in the Beginning of the fourth Century: He firſt ſtudied in the School of *Zeno* the *Cyprian*, at *Sardes*, and then went to *Alexandria* in *Ægypt*, where he finiſhed his Studies, and afterwards became an eminent Profeſſor there, about 150 Years after the Death of *Galen*, and was eſteemed the greateſt Scholar and Phyſician of his Time.

He wrote 70 Books of Collections, which he chiefly compiled from the Works of *Galen*, and the other Phyſicians who preceded him, and his own Experience, at the Deſire of *Julian* the *Emperor*, about A. D. 360; of which the firſt 15 are now only remaining, and two more on Anatomy. Of theſe, his Works, he made an Epitome, for the uſe of his Son *Euſtathius*, in nine Books. His *Theory* of Diſeaſes is that of *Galen*, from whom he principally took it; yet ſomething new may be found in his Works, not mentioned by any Author before him; and both *He* and *Ætius* have preſerved ſeveral uſeful Fragments of Antiquity from *Archigenes*, *Herodotus*, *Leonides*, *Eunapius*, *Poſidonius*, *Apollonius*, and *Antyllus*, and ſome others.

Oribaſius has deſcribed all the Parts of the human Body, and their Uſe, and Office, that were then known; but takes the moſt or all of it from *Galen*: however he has given us the firſt Deſcription of the *Salivary Glands*[a], and their Uſe. He alſo firſt mentions the Method of Bleeding copiouſly by making large Scarifications[b]; and tells us of the great Advantage that he found in himſelf from it, when he was ſeized with the *Plague*, which then raged in *Aſia*; he ſays that he ſcarified his thigh, on the ſecond Day, and took away two Pounds of Blood, by which he ſoon recovered, as alſo did ſeveral others by the ſame means; (*Galen* alſo tells us that in the *Plague* he took away the ſame Quantity of Blood by opening an Artery between his Fingers, with the ſame Succeſs): *Oribaſius* alſo mentions how

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[a] Oribaſ. Oper. Lib. 24. Cap. 8.

[b] Idem. Coll. 7. 20.

ſucceſsful he had found it in a Suppreſſion of the Menſes, Headaches, Giddineſs, Difficulty of breathing, and in a Defluction upon the Eyes. This Method of Scarifying is ſtill practiſed by the *Ægyptians*, and is fully deſcribed by *Proſper Alpinus*[c]: He ſays, "They make a Ligature under the Ham, "then put the Leg into warm-water, and "rub it well; then beat it with Reeds to "make it ſwell, and then make large "Scarifications." But bathing the Legs in warm-water, and bleeding in them, is much leſs painful, and may make as great a Revulſion. He alſo firſt deſcribes a peculiar kind of Madneſs, which he calls Λυκάνθρωπια[d], which probably was more frequent in thoſe warmer Countries, or in that Age, than it is in ours; as it is alſo mentioned by *Ætius*, *Paulus*, *Actuarius*, and ſome others, who lived and wrote ſoon after him; and it moſt probably is the ſame Diſeaſe which is called *Demoniack* in the Scripture[e], from its *Arabian* Name ظنك *Demoniack*, and has been alſo deſcribed by ſome more modern Authors, *Donatus ab alto Mari*[f], and *Foreſtus*, tho' it's ſeldom or never ſeen now.

Oribaſius was a Man of Genius, Learning, and much Experience, and a voluminous Writer, tho' he wrote much leſs on Surgery, than either *Hippocrates*, *Celſus*, or *Galen* have: And if he had had leſs of the *Galenical Theory*, and more of the *Hippocratick*, and more conciſe like *Aretæus*, his Works would have been more valuable.

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[c] Profp. Alp. de Med. Ægyptior. Lib. 3. Cap. 8. [d] Orib. Coll. 8, 10. [e] St. Luke, Cap. viii. 27. Mark, Cap. v. 3. [f] See Dr. Freind's Hiſt. of Phyſ. p.

The next Phyſician of note, that we meet with after him, is *Ætius*, who was born at *Amida*, a City in *Meſopotamia*, but ſtudied Phyſick at *Alexandria* in *Ægypt*; and is ſuppoſed to have been a *Chriſtian*. He wrote ſixteen Books on Phyſick and Surgery, which he principally compiled from the Works of his Predeceſſors, which have been ſince divided into four Books, from thence uſually called Τετράβιβλοι. He lived in the latter end of the fifth Century, probably about A. Dom. 480. He writes with more Perſpicuity, and treats on more Diſeaſes, and deſcribes them, their Symptoms, and their Method of Cure, more fully than *Oribaſius* did; but both their Deſcriptions are much ſhort of, and inferior to thoſe of *Aretæus*. And altho' his Works are voluminous, yet he ſays but little on the Structure or Uſe of the different Parts of the human Body; and is much inferior in his Surgery, to either *Hippocrates*, *Celſus*, or *Galen*, and even to *Oribaſius*; and much more ſo to that of *Paulus* of *Ægina*, who lived ſome Years after him. He mentions the above-named Kind of Madneſs, and adviſes making the above-mentioned Inciſions in the Legs in the ſame Caſes; and he alſo deſcribes in his Surgery the Operation of Caſtration very well, and more exactly than any before him; (but that Operation in making Eunuchs, had been long practiſed in thoſe eaſtern Countries).

He is the firſt that made and deſcribes *Iſſues*[g] to drain off bad Humours; and he made them with a Cautery, in various Diſeaſes, and ſometimes in ſo many Parts of the Body, and in ſuch Parts[h], as ſeem to render the Remedy as bad, or ſometimes worſe than the Diſeaſe; altho' the uſe of the Cautery was well known to *Hippocrates*, and others long before; but not *Iſſues*. He alſo deſcribes ſome new Diſeaſes, which no Author has deſcribed before; as the *Dracunculus*, or the *Vena*, or *Nervus Medinenſis*, now called the *Guinea-worm*; tho' ſome ſuppoſe that he takes it from *Leonides* of *Alexandria*: *Galen* alſo mentions it, but ſays he had only heard of it in *Arabia*, but had never ſeen it: *Leonides* probably had ſeen it in *Ægypt*; and it is as probable that *Ætius* might have ſeen it in *Perſia*, as it is no leſs frequent in ſome parts of that Country, than it is in *Arabia* and *Africa*: And *Rhazis*, who lived there afterwards, has deſcribed it, and its Method of Cure, and ſo have all the other *Arabian Phyſicians,* more fully than the *Greeks* did, as we ſhall ſee.

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[g] Ætius Tetrabib. Lib. 2. Cap. 2. 28.

[h] Idem. Lib. 2. Cap. 4. 64. Lib. 4. Cap. 2. 24, 25, &c.

He is very full in deſcribing, as well as in uſing external Applications; as, *Unguents, Cataplaſms,* and *Plaſters,* and particularly the laſt, of which he has a great Variety, ſome of which he ſeems to have been too fond of, and extols too much, as may be ſeen in his Works[i], or in Dr. *Freind*'s Hiſtory of Phyſick[k]. He alſo gives us the beſt Account of the *Ægyptian Pharmacy,* that we have any where; and he has collected many Receipts of the moſt famous *Noſtrums* then in vogue, chiefly with a deſign to expoſe them, and their *Authors,* for impoſing them, and themſelves, upon the Ignorance, and Credulity of the People; he ſays, that one *Danaus* ſold a Collyrium to waſh ſore Eyes with at *Conſtantinople* for 120 Numiſmata; and *Nicoſtratus* ſold an Antidote he had for the Cholick, which he prophanely called *Iſotheos,* for two Talents[l]. Thus he gives us ſeveral Inſtances of the Diſhoneſty of ſuch Pretenders, who impoſe their *Noſtrums* by the means of great Promiſes, and pompous Names, upon the well-meaning ignorant People, by which they gain great Riches; till their *Noſtrums* are known, and then they ſhew the Kna-

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[i] In Tretrabib.

[k] Hiſt. of Phyſ. p. 62, &c. l.

[l] Two Talents of Silver, is 375 *l.* Sterl. if of Gold, is 4500 *l.* either is a very dear Doſe.

very of thoſe that ſell them, and the fooliſh Credulity of their Purchaſers; and are ſoon loſt in Oblivion together with their Authors: For Quacking in that luxurious Age ſeems to have been almoſt as much in faſhion, as it is now in theſe no leſs luxurious Days.

Not long after *Ætius* lived *Alexander Trallianus*, who was born at *Tralles* a City in *Lydia*, near to *Ionia*, where the *Greek Tongue* ſtill continued to be ſpoken more pure than in many other Parts of *Greece*: He had travelled much in queſt of Knowledge, and was a Man of Learning, much Practice and Experience, and great Probity, and Reputation; and his Works have more the Appearance of an original Author, than any ſince *Hippocrates*, except *Aretæus*. Theſe two eminent Phyſicians, and *Celſus*, have purſued the *Hippocratick* Method of obſerving Diſeaſes, and their Symptoms, and his manner of Reaſoning, as well as Writing, more carefully and exactly, than any of the Ancients have done. His manner of Writing is clear, his Style conciſe, his Language good *Ionick Greek*, his Method judicious, and entirely his own; neither was he ſo much influenced by the Peripatetick Philoſophy and Theory of *Galen*, as *Oribaſius* and *Ætius* were, tho' the laſt had not ſo much of it as the former: So that if he followed any *Authors*, it certainly was *Hippocrates* and *Aretæus*. He has left us twelve

Books on Diſeaſes, in which he accurately deſcribes Diſeaſes and their Symptoms, as *they* did; and is no leſs accurate in inveſtigating, and explaining their *Cauſes*; and as judiciouſly deſcribes the right Intentions, and the moſt proper Methods of curing them.

He is alſo very careful and exact in diſtinguiſhing and deſcribing the *Diagnoſtick Symptoms* of ſuch Diſeaſes, as much reſemble, and are very like to each other[m]: All which he ſeems to have taken from his own accurate Obſervations and juſt Reaſoning. He neither formed any Hypotheſes of his own, nor admitted thoſe of *Galen*, or any other Phyſicians, but generally adhered to the *Hippocratick* Method of obſerving, and his own juſt manner of Reaſoning; and whenever he differs from the *Antients*, in any thing, he freely gives his Opinion, and his Reaſons for his diſſenting from them, when he has ſufficient Cauſe for it, like an honeſt Man; not from a Deſire of contradicting, but for the ſake of Truth; and being right. He ſhews his Diſapprobation of the *Hypothetical Theory of Galen*, and his Method[n], like a wiſe and judicious Phyſician, and often gives very judicious and good Reaſons for his doing ſo. He generally not only clearly explains his Intentions

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[m] Vide Alex. Trall. de Calcul. & Morb. Chol. Lib. 9. Cap. 4. Et de Pleurit. & Hepatit. Lib. 6. Cap. 1. &c. Et de Lien Schirros, Lib. 8. Cap. 10.

[n] Alex. Tral. Oper. Lib. 6. Cap. 1. Lib. 12. Cap. 1. 6, 7, 8.

and Method of curing Diſeaſes, but he alſo gives his Readers good Cautions, what they ſhould avoid doing, as the honeſt Dr. *Sydenham* did; which few other Phyſicians have done: And is a Method, as Dr. *Freind* well obſerves[o], *which if all other Writers had as exactly followed, might have been of as much uſe to us, as many of their poſitive Precepts.* As ſuch Obſervations are to all ſucceeding Phyſicians, like ſo many Buoys placed by the Sailors, for all that come after them, to avoid thoſe Rocks and Shoals.

He is not only full, and clear in deſcribing Diſeaſes, their Cauſes, and the true Intentions of curing them; but he is more exact and full in the *Therapeutick* Part, than any of the Phyſicians who went before him were. In a *Cauſus*, attended with a *Syncope,* from a Redundancy of Humours, (a *Plethora)* he adviſes Bleeding, and gives good Reaſons for it; tho' both *Hippocrates*[p] and *Aretæus*[q], had given the ſame Advice before; yet both *Oribaſius*[r], and *Ætius*[s], who wrote ſome time before him, were afraid to uſe it; and *Cælius Aurelianus* ſays, " *Phlebotomiam nihil jugulatione differre ra-*" *tio teſtatur*[t]:" But *Alexander* gives us the Diagnoſtick Symptoms of it, before the Syncope comes, and adviſes Bleeding, and

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[o] Dr. Freind's Hiſtory of Phyſick. [p] Hippoc. de Rat. Vict. in Morb. Acut. 4. 23. [q] Aretæi Cap. Oper. In Cur. Morb. Acut. Lib. 2. Cap. 3. [r] Orib. Opera de Syncope, Lib. 7. 26. [s] Ætii Tetrabibl. Lib. 2. 1, 96. [t] Cæl. Aurel. Morb. Acut. Lib. 2. Cap. 38.

Frictions, which he ſays will prevent its coming: Which is alſo confirmed by *P. Salius,* who wrote very well upon this ſort of Syncope[u], and ſays that no Author mentions it before him; therefore we muſt conclude that he had not ſeen *Alexander's* Works, who has written very judiciouſly and fully upon it[w], and deſerves the Attention of every Phyſician. He ſtrongly recommends giving Vomits before the Fit, in Intermiting Fevers; a Method which is mentioned by the Antients, but is not ſufficiently inſiſted on by them, tho' generally practiſed either before or after the Fit.

He deſcribes a Phrenſy and its Symptoms accurately, and ſhews that it does not proceed from an Inflammation of the Diaphragm, as was then ſuppoſed, but of the Brain; for which he orders bleeding in the Arm and Forehead; and gives Diacodium, but not without ſufficient Precautions. In a Parotis, and alſo in an Inflammatory Quincy, he adviſes Bleeding copiouſly, and repeats it three or four times, in the laſt, if neceſſary: And I think is the firſt that mentions opening the Jugular Veins. He then adviſes the Uſe of Repellents to the Part, at the beginning of the Diſeaſe; but if they do not ſoon begin to diſcuſs the Swelling, he orders Suppuratives and Emollients, but not till he finds they will not diſperſe.

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[u] P. Salius de Affect. Part IV. Opera de Syncope.

[w] Vide Alex. Trallian.

He alſo mentions a *Tubercle* in the Lungs, which cauſes a Difficulty of breathing, without a Fever, or Expectoration; (*Galen* alſo mentions the ſame) eſpecially in ſcrophulous Patients, which uſually ends in an *Atrophy*, with an Hoarſeneſs, or in a *Phthiſis*. He likewiſe firſt mentions a *Stone* coughed up out of the Lungs. Such I have alſo ſeen, and one in particular which was ſhaped like the Branches of the *Bronchia*, and was broken off from thoſe Branches left behind, as evidently appeared; it was variegated in Colours like, and as hard as Marble; the Patient died after ſome time in a perfect Phthiſis, and from the Symptoms which attended, it is moſt probable that he had a conſiderable Quantity of that ſtony Matter in his Lungs.

In Fevers, he adviſes Bleeding, and a liberal Uſe of cooling, diluting, thin Liquors, as *Ptyſan*, *Hydromel*, &c. as *Hippocrates* did; which is the moſt rational Practice. He is the firſt that mentions a Βȣ́λιμος, or immoderate Hunger, ariſing from Worms; and mentions a Woman who was cured of it by taking *Hiera*, and voiding a Worm about 12 Cubits, ſix Yards long; this is the firſt mention that we have of the *Tænia*, or Tape-worm; he alſo mentions the *Aſcarides*, and *Teretes*, the ſhort, ſmall, and long round Worms, in his Epiſtle to *Theodorus*, on Worms, and deſcribes the Methods of killing them, and curing the Patients. He alſo firſt deſcribes the Virtues of Steel given inwardly, and recommends it both in *Infuſion*, and in *Subſtance*, in a *Schirrus Spleen*[a]. It is well known that the Ruſt of Iron was given many Ages before[b]; and both *Celſus*, and *Dioſcorides*, and *Pliny*, alſo made uſe of a hot Iron quenched in Water or Wine, in a Dyſentery, and likewiſe to prevent the Spleen from growing too large. He alſo mentions *Rhubarb* as a Reſtringent, which moſt probably was the *Rha-ponticum*, and with which the *Antients* were well acquainted; though the *Rha-barbarum* was known not long after. Bleeding in a Fit of the Stone, Dr. *Freind* ſays[c], "*is no* "*where ſo much inſiſted upon, as by* Alex-" ander; which, he ſays, *is a very judicious* "*Practice, eſpecially if there be at the ſame* "*time a Suppreſſion of Urine*[d]:" To which we may add, if it be attended with Inflammation, as it generally is, more or leſs. There are ſeveral other Things mentioned in his Practice, which are very well worth our Notice; as he ſeems both to have obſerved, and deſcribed Diſeaſes, more accurately than any of the *Antients* ſince *Hippocrates*, if we except *Celſus* and *Aretæus*; and he reaſons more juſtly and truly, in inveſtigating their *Cauſes*, as alſo in diſcovering the moſt judicious Methods of curing them; ſo that he may be truly eſteemed one of the beſt practical Writers, and made the moſt Improvements in the medical Art, of any of the *Antients* ſince *Hippocrates*, whoſe Method of obſerving, reaſoning, and Practice he cloſely followed.

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[a] In Lib. 8. Cap. 13.

[b] See before.

[c] Hiſtory of Phyſick, vol. 1. p. 120.

[d] Idem, Ibidem.

Alexander mentions ſeveral Phyſicians who lived a little before, or were Cotemporaries with him; and gives us a great Character of one *Jacobus Pſychreſtus*, who was a Phyſician of great Reputation and Learning; and alſo his Scholar *Aſclepiodotus*, who revived the Uſe of *White Hellebore*, which was then become quite out of uſe, tho' it had been ſo much uſed by *Hippocrates* and the Antients: And is now as much out of uſe as ever it was, or more ſo; as it is ſo violent a Medicine in its Operation; and the modern Diſcoveries have ſupplied us with others, which are more ſafe, and probably as efficacious.

Dr. *Freind* mentions ſeveral Phyſicians who lived near the ſame time, and were moſt of them eminent Men in their Profeſſion; but as we have not any of their Works, nor any Extracts from them, that are of any Importance, or that inform us of any Improvements that they made in the medical Art, I ſhall paſs over them, and refer the more inquiſitive Reader to his learned Hiſtory of Phyſick, and come to the next and laſt of the *ancient Greek Phyſicians*.

Paulus Ægineta, who was born at *Ægina*, an Iſland in the Gulph of *Athens*, in the latter end of the ſixth Century. He firſt ſtudied Phyſick in *Greece*, and then went to *Alexandria* in *Ægypt*, which was then, and had been from the time of the Declenſion of the School at *Coos*, the moſt famous School in the World for ſtudying the Arts and Sciences, eſpecially *Phyſick*, almoſt for a thouſand Years, and there finiſhed his Studies about the Year 620. He travelled much in the queſt of Knowledge, and was a Man of great Learning. The *Peripatetick Philoſophy*, and the *Theory of Galen*, then in faſhion, were his Favourites, tho' he has not given us much of any *Theory* in thoſe *Seven Books of Phyſick*, which we now have of his. The firſt treats on the Diſorders of pregnant Women, and on thoſe of Nurſes, and young Children, and I think are the firſt that are expreſsly written on thoſe Subjects; and then he proceeds to treat on other Diſeaſes, till he arrives at thoſe of old Age, and on Diet. The ſecond treats on Fevers, and all their different Kinds, moſt of which he has compiled from various Authors. The third is on the Diſeaſes of all the different Parts of the Body, in which he begins with thoſe of the Head, and ends with thoſe of the extreme Parts; the 76th Chapter of which, is *De Partu Difficili*, on which he is not very full, but rather too ſhort. The fourth is upon Cutaneous Diſeaſes, Ulcers, and other external Diſeaſes; he begins with the *Elephantia*, or *Lepra Arabum*, moſt of which he takes from *Aretæus*, and has not written ſo full and well upon it as he did; and he ends that Book with the *Dracunculus*, or Guinea-worm: He ſays it is bred in the ſuperior Parts of *Ægypt*, and in *India*; I ſuppoſe he means *Æthiopia* and *Arabia*, joining upon the ſouthern Parts of the *Red-Sea*, as it is chiefly found there, and in the *Perſian Gulph*, and now alſo on the Coaſts of *Guinea*. He is the firſt after *Ætius* whoſe Works are come to our Hands, that fully deſcribes this Diſeaſe: He ſays that *Soranus*[a] deſcribed it, and called it a *Nerve*, as all the *Arabian Phyſician* do, عرق مديني *Irk Medini Nervus Medinenſis*, and not قكر مديني *Nocra Medini Vena Medinenſis*[b], as their Tranſlators have called it, but are miſtaken, which was five hundred Years before him, viz. about A. D. 100. It was alſo mentioned by *Leonides*[c], whoſe Works are loſt: And from hence we learn, that *Cœlius Aurelianus* has not given us a Tranſlation of all *Soranus*'s Works, as he does not mention it; *Galen* alſo mentions it[d], but ſays he had only heard of it in *Arabia*, but had never ſeen it, as the learned Dr. *Freind*

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[a] Paul. Æginet Opera, Lib. 4. Cap. 59.

[b] Both the Words *Nocra*, and *Almadid*, ſignify a Vein; and *Irk*, a Nerve.

[c] Idem. Ibid.

[d] Galen. Opera Locis Affect. Lib. 6. Cap. 3.

Freind alſo obſerves[d]. His fifth Book treats on poiſonous Animals, and Inſects, and their Bites, or Stings; and on Poiſons, and their Method of Cure. His ſixth Book is upon *Surgery*, and its *Operations*, in which he is more full and clear than any of his Predeceſſors are. What *Theory* he has, is chiefly that of *Galen*, but he reaſons very little or none on the Cauſes of Diſeaſes; and even his Deſcriptions of Diſeaſes and their Symptoms, are much ſhorter than thoſe of *Oribaſius* and *Ætius*, and much more imperfect than thoſe of *Aretæus* and *Alexander*; altho' he takes moſt of what he writes on Diſeaſes from them, or from *Hippocrates*, *Galen*, or ſome other Phyſicians, yet he is not ſo full and clear in deſcribing them and their Symptoms, as moſt of them are: Neither do we meet with any thing that was then new, or with any Improvements in his Practice of Phyſick. But in his ſixth Book on Surgical Operations, we meet with ſome things which were then new, and were not mentioned before by any Author, and ſome Improvements on others: He is in general very exact in deſcribing the manner of performing the Operations; as in cutting for the Stone, he orders the Inciſion to be made obliquely, in the manner as Profeſſor *Rau* did, and the Moderns have done ſince; and not directly along the Perinæum. He diſtinguiſhes a *Bubonocele* from an *Entrocele*, and both of them from a *Bubo*, very exactly; and deſcribes the ſeveral different Kinds of *Hernia's*, and diſtinguiſhes that which proceeds from a *Rupture* of the *Peritonæum*, from that cauſed by a *Diſtention* of it; and deſcribes the different Operations, and Methods of curing them; and he firſt deſcribed the external Lamella of the Peritonæum, and that it formed a Coat over the ſpermatick Veſſels, which he calls ἑλικοειδὴς: As alſo in the Cure of a *Hydrocephalus*, and the Operation of the Paracenteſis, both in the Thorax and Abdomen, which he alſo carefully deſcribes. He likewiſe accurately deſcribes an *Anuriſme*, and diſtinguiſhes the two different Kinds of it, a Rupture of the Coats of the Artery, from a Diſtention of them, and deſcribes their Method of Cure. He alſo invented, or firſt deſcribes a Scarificator, with three Lancets, to make three Inciſions at once; and frequently uſed Cuping. He frequently uſed *Arteriotomy*, as alſo did *Galen*, long before his time. And he is the firſt that adviſes and practiſed *Bronchotomy* in a Quincy, but he takes it from *Antyllus*, whoſe Works are loſt; and we find that it is an Operation which was afterwards practiſed by *Albucaſus*, the *Arabian*. *Paulus* is alſo the firſt that deſcribes the Method of delivering a Woman of a

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[d] Hiſtory of Phyſick, Vol. p.

Child, both in the natural Way[a], and when in a preter-natural Labour; and firſt mentions the Uſe of the *Hook* or *Crotchet*[b], and the crooked Knife, to cut, or divide a monſtrous or dead Child with, which cannot be brought away whole; and in the next Chapter[c] he treats on bringing the Secundine, or After-birth away, when it is left behind: From whence it has been thought, that he practiſed Midwifry; and the learned Dr. *Freind* ſays[d], that he is the firſt Inſtance upon Record of a profeſſed *Man-midwife*, becauſe he ſays, "he was ſo called by the "*Arabians*." I ſuppoſe the *Doctor* muſt mean *Abul-Pharajus*, who only ſays, "—"*Paulus Ægineta Medicus ſuo tempore celebris: Inſigniter autem peritus fuit in Mulierum Morbis, multumque illis curæ impendit. Convenire ipſum ſolebant obſtetrices, & eum de rebus, quæ mulieribus poſt partum acciderent, conſulere, quibus reſpondere dignabatur, & quid facerent in iis de quibus quæſierant indicare; unde eum* القابلي *Al-Kawabeli, obſtetricem,* man-mid-"wife, *appellabant*." From whence one would conclude, that he did not practiſe it, but only inſtructed the midwives how to act in ſuch difficult Caſes, and directed what Medicines they ſhould give; neither does *Paulus* ſay that he practiſed it.

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[a] Paul. Æginet. Lib. 3. Cap. 76.

[b] Idem. Lib. 6. Cap. 74.

[c] Idem. Cap. 75.

[d] Hiſtory of Phyſick, vol. 1. p 159.

[e] Abul. Pharaj. Hiſtor. Comp. Dynaſtiarum, p., 114.

From which however we ſee that he very well underſtood the obſtetrick Art, whether he practiſed it or not; as well as all the other, even the moſt difficult Operations in Surgery, and no doubt had frequently performed them: And hence we may judge how well the Ancients underſtood, and to what Perfection they had brought the Practice of *Surgery* in *Paulus*'s time; which was about a thouſand Years after that of *Hippocrates:* And when we come to compare them with thoſe of the preſent Age, notwithſtanding all the Aſiſtances which the Moderns have had, from the many great Diſcoveries which have been made in Anatomy, the Knowledge of the Structure, and Uſe of all the different Parts of the Body, the Circulation of the Blood, the Uſe and the Application of the Chyle to reſtore the Fluids, and the Solids, the Uſe of the Bile, and all the other Fluids; the Secretions, Excretions, and Evacuations by inſenſible Perſpiration and Sweat, &c. and a Knowledge of the Laws of Motions; when we conſider all theſe Advantages, which the Moderns have had, and compare all thoſe few Diſcoveries and Improvements, which the Moderns have made in the thouſand Years which have paſſed ſince *Paulus*'s time, with all thoſe Diſcoveries and Improvements which were made in the thouſand Years before his time, they appear to be very inconſiderable: however we muſt allow that the Moderns have made ſome Improvements in that time.

Theſe being the laſt of the ancient *Greek* Phyſicians, whoſe Works are come down to our Hands; and we meet with none of the Works of any of the *Roman* Phyſicians or Surgeons, or of thoſe of any other European Nation, either near this Time, or for ſome Centuries before, that are of any Value: Let us therefore inquire a little into the Cauſe of this great Declenſion of all ſorts of Learning; and why all the *Arts* and *Sciences*, which are ſo uſeful to Mankind, were ſo much neglected; and how Mankind who had once known the Value and Uſe of them to the human Mind, poſſibly could ſuffer them to be almoſt entirely extinguiſhed, and let themſelves ſink into ſuch a State of Superſtition and Ignorance, as they really did.

A moderate Share of Inquiry into Hiſtory, will inform us, that the State of Effeminacy and Luxury, which we left the *Roman* Empire involved in, a few Pages before, in order to inquire into the State of *Phyſick* in *Greece*, ſtill continuing, and gradually increaſing, eaſily influenced Mankind to prefer Pleaſures and Eaſe, or rather Idleneſs, to Labour and Learning; the laſt not being to be obtained without the firſt, Pleaſures were preferred to all other Things.

And we alſo find that *Chriſtianity* had not been long eſtabliſhed in *Europe*, eſpecially in *Italy*, before the Purity and Simplicity of that *Religion* began to decline; and as it declined, *Prieſtcraft* began to increaſe, and continually gained Ground, till in a few Years time, the *Popes* eſtabliſhed themſelves; ſoon after which they, and their *Prieſts*, began gradually to raiſe themſelves by various Arts, above the reſt of Mankind. The Effeminacy, Luxury, and Indolence of the People, and the Love of Power and Riches in the *Popes* and *Prieſts*, in a ſhort time induced them to ſet themſelves up not only for ſpiritual Guides, which they had pretended to be, for a great Number of Years, but for *temporal Princes* alſo; and *Chriſtianity* was in a little time changed into *Popery*; and both the *Popes* and *Prieſts* ſoon began to aggrandize themſelves with Power and Riches: And they quickly ſaw, that the moſt effectual Way to gain thoſe much deſired ambitious Ends, would be to keep all Learning and Knowledge, as much as they poſſibly could, from the Laity; well knowing, and clearly ſeeing, that *Ignorance* was the moſt proper, and the moſt fertile Soil, to produce *Credulity*, *Superſtition*, and *ſlaviſh Obedience* in; and conſequently would be the moſt effectual Way to obtain their

Deſigns of aggrandizing themſelves with *Power*, *Riches*, and *Authority*. And accordingly we find that it was not long after the ſetting up the *Popes* in the fifth Century, before all *Learning*, and all the eminent Schools began to decline, and every Branch of Learning, eſpecially in *Philoſophy*, *Phyſick*, and *Law*, ſoon began to be neglected, and to decline alſo; and Mankind, in a few Generations, ſunk into the greateſt State of dark Ignorance and Superſtition; *Arts* and *Sciences* were little known, and the *Roman* Empire was put an end to, and the *Pope* was eſtabliſhed not only as a *temporal Prince* in *Italy*, but by the Aſſiſtance and Arts of his *Prieſts*, he reigned triumphantly over the Wills, Minds, and often over the Fortunes, of the Subjects of moſt of the *Potentates* and *Princes* in *Europe*. And Ignorance and Superſtition reigned as triumphantly over all the People, ſo that all the Arts and Tricks of Prieſtcraft were impoſed upon them, as, and when they pleaſed, with what other Impoſitions they thought fit to put upon them; and the poor ignorant *Laity* readily ſwallowed, and believed, all that they were bid to believe.

During this long Time of Ignorance, we neither meet with any Account of any learned Men, or the Works of any Men that were eminent for their Learning in *Phyſick* or *Philoſophy*, or in any other of the

Sciences, except the few above-mentioned *Greek Phyſicians*, the *Byzantine Hiſtorians*, ſome of the Fathers, and a few others, who lived in the *Greek Empire*, and ſuch other Places as were out of the Juriſdiction of the *Popes*, and a few *Prieſts* who were their *Tools*; for we find that even the Generality of the *Monks* themſelves were at laſt become almoſt as ignorant and illiterate as the reſt of Mankind; ſo that from the middle of the fifth Century, to the latter End of the fifteenth, may be truly called the Ages of Ignorance and Superſtition, under the Bondage of the *tyrannical Government of Prieſtcraft*.

Thus Learning and the Sciences ſunk and groaned under the Oppreſſion and Bondage of Ignorance and Superſtition, ſo long till neither human *Reaſon*, *Learning*, or *Liberty* itſelf, could bear the Oppreſſion any longer; wherefore *Learning* and the *Sciences* took their *Flight* out of *Europe*, and fled into the *Saracen Empire* in the *Eaſt*, where they met with a more favourable Reception; and were much encouraged and improved by ſome of their *Emperors* afterwards, as we ſhall ſee.

Although Learning and the Sciences were thus neglected, and at laſt baniſhed out of *Italy*, and all the other Parts of *Europe*; yet ſome ſmall Remains of them were ſtill preſerved in ſome Parts of the *Grecian Em-*

pire, and in ſome few Places in the *Eaſt*. But we find that they were cultivated no where ſo much as they were at *Alexandria* in *Ægypt*, where all the *Sciences*, eſpecially *Phyſick*, had been taught, and all its different Branches ſtudied, ever ſince the Decline of the *medical School* at *Coos*, to the Time of the Deſtruction of that *City*, and the burning of its famous Library by *Amrou Ebnolaas*[h], General of the *Saracen* Army, and of the Califf *Omar Ebnol Chatab*, in the 20th Year of their *Hegira*, and A. D. 640, a Space of almoſt 900 Years; during which Time it continued to be the moſt famous School in the World, for the Study of *Phyſick*, and continued to be ſo, even after the burning of its Library, to the Middle of the eighth Century: In which School we find that all the above-mentioned *Greek Phyſicians*, after *Celſus*'s time, had their Education, with ſeveral others, not here mentioned. But we find that the *Arabian* Califf, ſoon after that, began to erect Schools, one at *Antioch*, and another at *Haran*, in A. D. 721, where the Study of *Phyſick* was much encouraged; and the Profeſſors of it there began to tranſlate the Works of the *Greek Phyſicians* and *Philoſophers* into the *Syriack* Language; which were afterwards tranſlated again into *Arabick*[b]. And *Aaron*, a

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[a] Abul-Pharaji Hiſt. Dynaſt. p. 114. Ed. Oxon

[b] Idem. Ibid. p. 127.

a Preſbyter of *Alexandria*, had before this written his thirty Books on *Phyſick* in the *Syriack* Tongue, which he calls the *Pandects*, before the Year 620; which *Pandects* were tranſlated out of the *Syriack* into *Arabick*, by *Maſerjawahius* a *Syrian Jew*, and a *Phyſician* in the Reign of the Califf *Merwan*[c], about A. D. 683; for now the *Arabians* began to cultivate the *Sciences* and ſtudy *Phyſick*.

And we alſo find, that about 350 Years before this, *Sapores* King of *Perſia*, having married the Daughter of the Emperor *Aurelian*, he ſent ſome *Greek* Phyſicians to attend her in *Perſia*; upon which *Sapores* built the City of *Jondiſabur*, now called *Niſabur*, and a School there, in *Choraſana* in the north-eaſt Part of *Perſia*, where they taught the *Hippocratick Phyſick*[d]. Here *George Bactiſhua*, an eminent Phyſician, was educated, and was ſent for to the Califf *Almanzur*[d] when he was dangerouſly ill; and having cured *him*, he was ſent home with great Honours, and 10,000 Pieces of Gold.

Of this Family of the *Bactiſhua's*, *Abulpharajiu s*mentions three or four Generations who were all ſucceſſively *Phyſicians*, as in that of *Æſculapius* and *Hippocrates*; ſome of whom tranſlated the Works of ſeveral of the *Greek Phyſicians* into *Arabick*. And the *Arabian* Califfs ſoon after acquired a Taſte of, and became great Encouragers of Learning, eſpecially *Almanſur*, *Raſhid*, and *Almamun*, and founded ſeveral Colleges both at *Bagdad*, *Hamadan*, and in ſome other Cities; and invited learned Men of all Nations, whether *Jews*, *Chriſtians*, *Mohamedans*, or *Sabeans*, and eſpecially the *Greeks*, to come and teach the *Sciences*, particularly *Phyſick*, there: And accordingly we find that ſeveral learned Men came; and the Califfs by their Aſſiſtance, more eſpecially by *Al-mamun*'s applying to the *Greek Emperors* to ſend him all the *Books* in *Phyſick* and *Philoſophy* which they could procure; they obtained the Works of *Hippocrates*, *Galen*, *Oribaſius*, *Ætius*, *Paulus*, *Ariſtotle*, *Plato*, *Ptolomy*, and ſeveral others; and it is probable that many Books were ſaved from the Flames at *Alexandria* by the Learned, which were now brought to light again, as the Califfs greatly encouraged, and liberally rewarded thoſe who brought them, as well as thoſe who tranſlated them into the *Arabick Tongue*. They alſo procured all the aſtronomical and mathematical Inſtruments that they could, as well as Artificers to make them: So that all the liberal Arts and Sciences were ſtudied and improved as much as poſſible by the *Arabians*; altho' the *Greek* Tongue was not well underſtood in thoſe Colleges, or but by few, till *Honain Ebn. Iſaac* an eminent *Phyſician*, and a *Chriſtian*, in the Reign of *Al-mamun*, came to *Bagdad*; where being ill treated by *Yahya Eben Meſue, John the Son of Meſue,* he went into *Greece,* and acquired a perfect Knowledge of the *Greek Tongue,* and then returned into *Perſia,* where he made himſelf Maſter of the *Arabick Language* alſo[e]: Then he returned to *Bagdad,* where he was in great Favour with the Califf *Almotowaccel*[f]. *Honain* was the Son of *Iſaac* an Apothecary at *Hira* in *Syria,* and was a Man of great Learning, and a Maſter of the *Syriack, Arabick,* and *Greek Languages*; and it was to him, and his Sons, that the *Arabians* were indebted for the Tranſlations of the Works of *Hippocrates, Galen, Ariſtotle, Euclid,* and *Ptolemy*; he is ſaid to have lived to the Age of one hundred Years.

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[c] Abul-pharaj. Hiſt. Dynaſt. p.

[d] Idem. p. 144.

From theſe Schools, or Colleges, came moſt of the eminent *Arabian* Phyſicians; *Yahya Eben Serapion,* i. e. *John* the Son of *Serapion, Mohamed Ebn Zachariaa Abubeter al Rhazis, Mohamed* the Son of *Zacharia,* the *Father of Peter* of *Rhazis*; *Haly Abbas, Eben Sina,* or *Avicenna*; *Johannes Meſue* of *Damaſcus, Alkindus, Ebengneſet,* and many others, which are mentioned by *Abul-pharajius*[g]; both Phyſicians, Philoſophers, Aſtronomers, and Geographers, and learned Men in all the other Sciences; altho' the learned *Renaudaut,* and the learned

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[e] Abul-pharaji. Hiſt. Dyn. p. 172.

[f] Idem. p. 172.

[g] Ibidem ibid. p. 66, &c.

Dr. *Freind*, both find great fault with the Incorrectneſs of thoſe Tranſlations, and not without Reaſon, when they are compared with the Originals with a critical Eye: But it probably will be found that their Tranſlations into *Arabick*, have ſuffered much more Injury by being tranſlated out of *Arabick* into that barbarous Latin, which both they and the Works of the other *Arabian Phyſicians*, were tranſlated into afterwards, in *Italy*; eſpecially if that of *Avicenna* be compared with the Original; which is ſaid by Judges to be written in pure *Arabick*. However it muſt be allowed that the *Arabians* had more Learning, and gave much more Encouragement to the Cultivation of the *Sciences*, than any other Nation or People at that time did, when Ignorance and Superſtition reigned over all Europe: And we ſhall find that the *Europeans* are indebted to the *Arabians* for preſerving, and alſo re-introducing Learning, and the Sciences, among them again.

Haly Abbas has given us the beſt and fulleſt Account of the Works of all the *Arabian Phyſicians* who lived before him[h]. He alſo mentions thoſe of *Hippocrates*, *Galen*, *Oribaſius*, and *Paulus*, and quotes them often; but he does not mention *Aretæus*, *Ætius*, *Celſus*, *Soranus*, nor *Leonides*, nor any of the other *Greek* or *Roman* Phyſicians above-mentioned; whence we may conclude that he had not ſeen any of their Works.

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[h] Haly Abbas Theor. p. m. 6.

The firſt Author that he mentions after the *Greeks*, and who he calls *Moderns*, is *Aaron* of *Alexandria*, who lived about 350 Years before him, and probably was a *Syrian*, as he wrote in the *Syriack Tongue*; and is placed as the firſt that wrote in *Phyſick* among the *Arabians*, about A. D. 620. His thirty Books, which he called *Pandects of Phyſick*, were tranſlated by *Maſerjawaihus* a *Syrian Jew* and *Phyſician*, into *Arabick*, about A. D. 683; in which he had clearly deſcribed the *Small-pox*, and the *Meaſles*, with their *Pathognomonic Symptoms*, and is the firſt Author that mentioned thoſe two remarkable Diſeaſes, which probably firſt appeared and were taken notice of at *Alexandria* in *Ægypt*, ſoon after the *Arabians* came and took that City, in A. D. 640, in the Reign of *Omar Ebnol Chatab*, the ſecond Succeſſor to *Mohamed*[1]. But both thoſe original *Pandects*, and their Tranſlation, are now loſt, and we have nothing of them remaining, but what *Mohamed Rhazis* collected from them, and has left us in his *Continens*; ſo that we have no certain Account where thoſe two Diſeaſes firſt appeared; but it is moſt probable, that it was in *Arabia Fœlix*, and were brought from thence to *Alexandria* by the *Arabians*, when they took that City, A. D. 640[k]; for *Paulus* of *Ægina* lived at *Alexandria* at or ſoon after A. D. 620, and ſays, he has wrote on all the Diſeaſes that were then known[l], yet neither mentions the *Meaſles* nor *Small-pox*; therefore it is probable that *Aaron* did not finiſh his *Pandects* till after the Year 640, that the *Arabians* had brought thoſe Diſeaſes thither, as they carried and ſpread thoſe Diſeaſes wherever they extended their Conqueſts afterwards: Weſtwards into *Spain*, about 30 Years[m] after that, and eaſtwards, ſo that they were brought to *Japon*[n] ſoon after. *Haly Abbas* ſays[o], that *Aaron* wrote upon moſt Diſeaſes, and their Cauſes and Method of Cure, and on the *Small-pox* and *Meaſles*; but he finds fault with him, becauſe he ſays too little on things natural, and non-natural, and for his ſaying nothing on the Preſervation of Health, or on Surgery.

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[1] Abul-pharaj. Hiſt. Dyn. p. 114.

The next that he names is *Meſſue*, not *Meſſue* of *Damaſcus*, whoſe Works we have, and who lived long after his time; but *Meſſue* of *Niſabur*, in *Choraſana*, an eminent Phyſician, and a Chriſtian, who lived at *Bagdad*, with whoſe Works *Haly* finds the ſame Faults as he did with *Aaron's*, and alſo with his want of Method. *Abi Oſbaia* ſays *Meſſue* wrote thirty-ſeven Books, moſt probably in the *Syriack* Tongue alſo, which are all loſt.

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[k] See our Account of it in the Treatiſe of the Small-pox, p. 7, &c.

[l] Paul. Æginet. Opera in Præfatione.

[m] Ockley's Sarac. Hiſt.

[n] Kempher's Hiſt. of Japon.

[o] Haly Abbas, Theor. Lib. 1. p. 6.

The next is *John* the Son of *Serapion*, who could not be *Serapion* of *Alexandria*, who lived 800 Years before his time; becauſe this *John Serapion* treats on the *Small-pox*, which were not then known. He alſo wrote a Treatiſe on Diſeaſes, and deſcribes their Symptoms and their Cauſes, and the Methods of curing them by Diet and Medicines; but *Haly* finds fault with him alſo, for not doing the ſame more fully on the *Small-pox*, tho' he mentions them[p]; as alſo for his omitting many Diſeaſes, as thoſe on the Eyes, the *Elephantiaſis*, and ſeveral others, in which he blames *Serapion*'s Method of treating them[q]. From what both *Haly* and *Rhazis* ſay of, and quote from this Work, we may find that it is the ſame with that Work which we now have under the Name of *Yahya Eben Serapion*, or *John the Son of Serapion*, who is often quoted by *Razis* in his *Continens*; and firſt mentions cutting for the Stone in the Kidnies, but did not practiſe it himſelf. But the Treatiſe on ſimple and compound Medicines, which is now added to this Work of *Serapion*'s, which we have now, is not genuine. And we find that *John Serapion* lived both after *Meſue*, *Gabriel* the Son of *Bactiſhua*, and after *Honain* the Son of *Iſaac*, becauſe he refers to ſeveral Medicines uſed by them; and *Honain* was Phyſician to the Califf *Almotawaccel*, who died before the Year 862[r]. This *Honain* often quotes and tranſcribes out of *Alexander* of *Tralles*, which none of the other *Arabian* Phyſicians have done: *Abul-pharajius* mentions above twenty other Phyſicians who were eminent in their Profeſſion[s], but have not left us any of their Works behind them that are come to our Hands.

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[p] Haly Abbas, Theor. p. m. 6.

[q] Idem. Ibid.

The next Phyſician *Haly* mentions, is *Mohamed Eben Zacharia Abubetri al Rhazis*, who was born at *Rhei* a City in *Chora ſana*, in the Year 852, and died A. D. 932[t] at the Age of 80. He was a very learned Man, well verſed in all the Sciences, a great Chemiſt, and an able Phyſician. *Abu Oſbaia* ſays he wrote 226 Treatiſes[u], ſome of which were of *Alchymy*; and we have two large Volumes, which he called his *Continens*, which ſeem to have been deſigned for a Common-place Book, as it is without that Order which *his* other Works have, as the ten Books which he addreſſed to the *Chaliph Almanſur*, which he deſigned as a compleat Body of Phyſick, and is as compleat a Syſtem of Phyſick as any we have among the *Arabian Phyſicians*, or even among the *Greeks*, for many Centuries before him; and is the firſt regular Syſtem of Phyſick, and the beſt that was publiſhed by the *Arabians*. And as he was well acquainted with the Works of *Hippocrates* and *Galen*, and moſt of the other *Greek* Phyſicians, he has taken from them what he thought was the moſt uſeful and neceſſary, eſpecially from the firſt; and altho' he was a great Philoſopher, and no doubt was well acquainted with both the Philoſophy of *Ariſtotle* and the *Theory of Galen*; yet he has much leſs of the *Galenical Theory* in his Writings, than the other *Arabians*, more eſpecially than *Haly Abbas* and *Avicenna* have: And as he did take many things from the other *Greek Phyſicians*, as they had taken from *Hippocrates* before, yet we may find both ſeveral new Diſeaſes, and new Medicines, which were not known to any of the *Greek* Phyſicians, nor are they mentioned by any of them, nor by any other Phyſician, (except ſome of them which are mentioned, but not ſo well deſcribed, or treated on, by *Aaron* and *Serapion*); wherefore he may be truly ſaid to have made ſome conſiderable Improvements in the *medical Art*, both in firſt deſcribing thoſe *new Diſeaſes*, and their *Method of Cure*, and acquainting us with the Virtues and Uſes of thoſe new Medicines, which were not known to the *Greeks*, as we ſhall ſee.

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[r] Haly Abbas, Theor. p. m. 6.

[s] Ibidem Hiſt. Dynaſt. p. 163, &c.

[t] Dr. Freind's Hiſt. of Phyſick, vol 2. p. 46.

[u] Abul-pharaji ſays A. Heg. 320, which anſwers to A. Ch. 940. Hiſt. Dynaſt. p. 191.

In his ten Books addreſſed to the Califf *Almanſur*, the firſt is upon the Anatomy, and the Structure, and Uſe of all the different Parts of the Body: The ſecond is on the Temperaments, Complections, and Humours of the Body; in treating on which he is a little too much influenced by the *Theory of Galen*: The third is on the Nature of Aliments, and on the Virtues of ſimple Medicines: The fourth is on the Method of preſerving Health; and has ſeveral good Rules for it: The fifth is on cutaneous Diſeaſes, and their Cure, and upon Coſmeticks; but it is much wiſhed that he had been a little more full and clear in deſcribing them; he treats on the *Lepra Arabum*, which ſeems to be the ſame Diſeaſe which *Aretæus* and the other *Greeks* call the *Elephantiaſis*; but the *Elephantiaſis* of the *Arabians* is a very different Diſeaſe, as we ſhall ſee hereafter: The ſixth treats on the Regimen, and proper Kinds of Diet, of thoſe who travel much by Sea or by Land; and he firſt mentions thoſe that are ſnow-blind, and how to prevent it; and how to treat thoſe who are frozen with Cold, that they may not loſe their Fingers or Toes; and how to cure them when putrified by it: his ſeventh Book is on Surgery, and treats on Wounds, Ulcers, Luxations, and Frac-

tures,

tures, and on Surgical Operations; in which he treats on the Scrophula, and a Cancer, and the *Ignis Perſicus*, which is a Species of the *Ereſipelus*; and in Chapter 24th treats on the *Vena Medinenſis*, and its Method of Cure. It is alſo mentioned by *Galen*, who ſays he never ſaw it[w], and by *Paulus* of *Ægina*[x]; but *Mohamed Rhazis* calls it يرق مَدَنِي *Nervus Medinenſis*, and *Nervus Civilis*, and not قكر *Vena*, and ſo do all the other *Arabian* Phyſicians, but their Tranſlators by Miſtake call it *Vena Medinenſis*.

The eighth treats on all the different Kinds of Poiſons, and the poiſonous Bites of Animals, Serpents, and Inſects, and their different Methods of Cure.

The ninth treats on all the different Diſeaſes which the human Body is ſubject to, from the Crown of the Head to the Sole of the Feet, and the various Methods of curing them, in 94 Chapters; in which he treats on all chronical Diſeaſes known, and ſome acute Diſeaſes, as a *Phrenitis*, *Apoplexy*, *Quincy*, *Aſthma*, *Pleuriſy*, *Peripneumony*, *a Cholera Morbus, an Inflammation of the Stomach, of the Kidneys, of the Cholic, and a Dyſentery, and on the Stone and Gout.* And in the 93d Chapter he treats on the *Elephantia* or *Elephantiaſis*, not that Diſeaſe which is ſo called by the *Greeks*, which is the *Lepra Arabum*, and is a very different Diſeaſe from the *Elephantia* which he ſpeaks of here; and alſo in *Lib. Diviſionum* Cap. 107, and is the firſt Author that mentions this Diſeaſe; but neither *Rhazis*, nor any of the other *Arabian* Authors, have deſcribed the Diſeaſe from its firſt Acceſſion of its Symptoms, and the Manner of its coming on, and its increaſing; but have only deſcribed it in its full-grown State; wherefore I have endeavoured to deſcribe it and its Method of Cure[y].

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[w] Galen. Locis Affect. Lib. 6. Cap. 3.

[x] Æginetæ Opera, Lib. 4. Cap. 59. p. 48.

In his tenth Book he treats on Fevers, and divides them into ſixteen different Kinds of Fevers, which he diſtinguiſhes by their different Cauſes, Symptoms, Acceſſions, Durations, and Effects which attend them; and alſo on the different Methods of curing them, beſides the Fevers attending the *Small-pox* and *Meaſles*: And he then treats on the different Methods of Diet, and the proper Regimens to be uſed in thoſe different Fevers, in Cap. 34, 35. In Cap. 19. he ſays, "*Quiſquis febrilium & acutorum* "*morborum congruam Victus rationem aſſe-* "*qui voluerit, ante omnia diſcutiat, morbus* "*ne ſalutaris an exitialis, breviſne, an lon-* "*gus, an Criſim ſit habiturus, an citra hanc* "*finiturus. Qua die ſit Criſis ventura, &* "*cujus*

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[y] In the Obſervations on the Air and Epidemick Diſeaſes in Barbadoes, p. 304.

“ *cujus ſpeciei ſit futura;* & *quomodo Ægrotanti ante dicretorium, in ipſo decretorio, poſt decretorium* & *uſque ad terminum,* & *ſequenti etiam tempore vivendum ſit, ſciat omnino oportet.*”

Then he deſcribes, “ *Quæ ſint, ſalutares in ægritudinibus Notæ in Cap.* 20. *Et inſalutares Ægritudinum Notæ in Cap.* 21. *In Cap.* 22. *De cognoſcendo mora Febris. Cap.* 23. *De Agnitione temporum Febris. Cap.* 24. *De conditione digeſtionis. Cap.* 25. *De criſi, ſeu decretorio. Cap.* 26. *De Signis indicantibus Criſim. Cap.* 27. *De cognoſcendis ſpeciebus evacuationis, per quam fit Criſis. Cap.* 28. *De ſignis Prognoſticantibus bonam Criſim, vel malam, vel perfectam, vel inchoatam. Cap.* 29. *De diebus decretoriis.*” And then he gives us three Chapters on the Signs and Prognoſticks, taken from the Urine, Stools, and the Pulſe, in which he is much more minute, and even tediouſly full, than any that wrote before him; tho’ *Galen* ſays a great deal on the Pulſe: *Rhazis* deſcribes ten different Sorts of Pulſes, and deſcribes them, and the Conſequences which they indicate or prognoſticate; and concludes his ten Books with deſcribing the proper Regimen for the Sick in thoſe Fevers, and ends with treating on the Diet ſuitable to reſtore their Health.

He then gives us a Treatiſe on the *Small-pox* and *Meaſles*, which is the firſt Treatiſe written on theſe Diſeaſes now extant. He clearly deſcribes all their Symptoms, and their Progreſs, and the Method of curing them. His Tranſlator calls this Book *Liber de Peſtilentia*, which treats on them as one Diſeaſe, or as two different Kinds of the ſame Diſeaſe; tho' both *Rhazis* and the other *Arabians* diſtinguiſh them by two different Names يِضَرِي *Iódari*, the *Small-pox*, and خَسَبَح *Chaſbah*, the *Meaſles*; yet they wrote on them as one Diſeaſe, the firſt as being more putreſcent, the other more inflammatory: And altho' he had treated on theſe Diſeaſes in the 18th Chapter in the 10th Book, and in the 159th Chapter of his *Lib. Diviſionum*; yet in this *Treatiſe*, which contains 15 Chapters, he is much more clear and full in deſcribing them, and all their Symptoms, as well as all the different Kinds of *Small-pox*. He firſt deſcribes the epidemical Conſtitution of the Seaſon [a] that produces them; then the different Symptoms of thoſe two Diſeaſes [b]; then how to prevent being infected, or how to render them more moderate, and mild, and leſs malignant [c]; then how to expel the morbid Matter to the Surface of the Body [d], and cure them; how to aſſiſt their Suppuration, and

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[a] Moham. Rhazis de Peſtilent. Cap. 1. [b] Idem Cap. 4. [c] Idem. Cap. 5. [d] In Cap. 6, 7,

turning into Scabs[e], and is very careful in preſerving the Eyes. He then deſcribes the proper Regimen in them[f], and takes great Care to keep the Body temperate; and adviſes Bleeding, or Purging, or both, when the Symptoms indicate them in the Beginning of the Diſeaſe; but forbids them during the time of their Eruption and Maturation[g]: He deſcribes[h] the different Kinds of *Small-pox*, and *Meaſles*, and calls them two Diſeaſes; he mentions the large diſtinct Kind, and the confluent, *alia in aliis*, and the *parva alba, velut verrucæ humore vacua, ſunt improba*; and the *viridia & violacea, & nigra, cuncta pernicioſa*. And he ſpeaks of the ſecond Fever, and ſays, "*Quod* "*ſi febris augeatur poſt excretionem peſtilen*"*tia eſt atrox ſi vero purgatur, eſt clemens* "*morbus*; and he gives his Reaſons for it. In Lib. Diviſon. Cap. 159. he ſays, "*Mor*"*billus autem eſt majoris timoris quam Vari*"*olæ, niſi in oculo.*" In both theſe Diſeaſes he dilutes plentifully with cooling acid Liquors, and gives *Acids* of the vegetable Kind copiouſly; he alſo uſes cold Bathing, to forward the Eruption of both the Meaſles and Small-pox, which probably in the warm Climate of *Perſia*, where he practiſed, might abate the Heat and Violence of the Fever, and aſſiſt the Eruption alſo, though it may not be adviſeable, in this our colder Climate; ſo that his Regimen in theſe Diſeaſes was full as cold, or even colder, than that of Dr. *Sydenham*'s.

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[e] Moham. Rhazis de Peſtilent. Cap. 9, 10. [f] Cap. 13.
[g] In Cap. 14. [h] In Cap. 15.

In the 25th Chapter of his 4th Book, he gives us ſeveral excellent Rules how to avoid or prevent peſtilential and epidemical putrid Fevers, which are very judiciouſly adapted to that Purpoſe, more eſpecially in the hot Climate of *Perſia*, where he practiſed; and may be equally as uſeful in all other warm Countries, and in ours in the warmer Seaſons of the Year, if prudently uſed; in which he recommends the Uſe of vegetable Acids, as various Kinds of *acid Robs*[h] made from acid Fruits, ſuch as Pomgranates, Oranges, Lemons, *&c.* and their Juices; as alſo Vinegar, الرَيب *Al-raib*, Sour-milk, or Butter-milk, which muſt be allowed to be a very judicious Practice, as all thoſe Acids are the moſt powerful, and the beſt *Antiſepticks*. And in the next Chapter he treats on the different Regimens to be uſed in the different Seaſons of the Year: And in the 27th on the Diet of Infants: And in the 28th on the Regimen of Women in Child-bed, and on the Method of facilitating their Labour: And in the two next on the Choice of Nurſes, and their Diet; as alſo on that of Infants, more fully; and then on the ſalubrious Diet of Adults,

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[h] *Rob*, a Quidany, or an Extract or acid Jelly.

Adults, and all others; and concludes that Book with Directions for the Choice of a Phyſician; in all which he lays down ſeveral judicious and very good Rules.

In the 25th Chapter of his 6th Book, he treats on the *Lepra Arabum*; as alſo in the 120th Chapter of the *Divis*. Tho' he is very ſhort in his Deſcription of it, and its Symptoms and Appearance, (probably as it was but too well known in that Country) and deſcribes the Method of curing it, which is as ſhort and imperfect: And he ſays, "*Si* "*huic ægritudini ſtatim ſubveniatur ex quo* "*incipit, ut ſanetur vel reprimatur poſſibile* "*eſt. Sed poſtquam membra vulneraverit,* "*ac eorum corrumpit figuras, fortaſſe non* "*ſanabitur.*" This ſeems to be the ſame Diſeaſe which *Aretæus Cappadox* calls Ἐλέφαντιαςις, and is the firſt that deſcribes it; and alſo ſays it is a Diſeaſe which is exceeding difficult to cure, when taken at its firſt Appearance; but when it is further advanced it was incurable [i]; and ſo alſo ſays the learned Dr. *Lomius* [k]. Tho' ſome Improvements have been made in the Method of curing this loathſome and dreadful Diſeaſe, ſince the Virtues and Uſe of *Antimony* and its Preparations have been diſcovered [l].

In the 9th Lib. and 93d Cap. he treats on the true *Elephantiaſis*, which is a very different Diſeaſe from that above-mentioned, and proceeds from a very different Cauſe [m], and is of as different a Nature; and it is wiſhed that he had deſcribed its Cauſe and Manner of Production, as well as its firſt State, more fully than he has; tho' he has in a brief manner deſcribed it in its full-grown State, ſo as to be eaſily known by thoſe who have ſeen it.

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[i] Aretæi Opera, Cap. 13. p. 13.

[k] Lomii Obſervat. Med. p. 53.

[l] Obſervat. on the Air and Epidem. Diſeaſe in Barbadoes, p. 322.

He alſo treats pretty fully on the Diſeaſes of the Joints, and is the firſt that accurately deſcribes a *Spina Ventoſa*, and clearly diſtinguiſhes it both from a Τερηδών, or carious Bone, and from a *Pædarthrocaſe*, which uſually affects the Middle or ſomewhat diſtant Parts of the Bone from the Joints; but the *Spina Ventoſa* uſually, or always, affects the *Epiphyſes* of the Bone; and laſtly, he treats on the *Gout*, and its Method of Cure.

He then treats on the Diſeaſes of Children, and is the firſt Author that has wrote expreſsly and fully on all the Diſeaſes of Children, and deſcribes them, and their Cauſes, and their Method of Cure.

In the 7th Book, Chap. 21, he deſcribes all the different Methods of Bleeding, and all the different Veins, and their Situation, which they opened in the Operation of Bleeding at that time; and minutely deſcribes the proper Method of opening them in each Part of the Body; and if an Artery chances to be opened by the Ignorant inſtead of a Vein, he tells us how it ſhould be treated and cured; and deſcribes the Method of *Cupping* and bleeding with *Leaches*; and minutely deſcribes the Method of making Inciſions and applying Cauteries to any Part of the Body.

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[m] See the ſame at p. 304, &c.

And after his ſix Books of *Aphoriſms*, he gives us his Book *De Antidotis*, or *Pharmacopœa*, in which there are ſeveral Medicines which were *new*, and were not known to the *Greeks*; as moſt or all the milder cooling Purgers, as Manna, Caſſia-fiſtula, Tamerinds, Myrobalans, Rha-barbarum, Agaric, Sena, Tartar, Sugar, and ſeveral of the cooling Fruits; and Syrups, Robs, Conſerves, &c. made from them; with ſeveral other *Antiphlogiſtick Medicines*, and a cooler Regimen. He alſo firſt mentions ſeveral Aromaticks and Spices, and other moſt valuable Medicines, as Nutmegs, Cloves, Zedoary, and ſome of the Peppers, Cubebs, Turbith, and the Leſſer Cardamoms, Ginger, Muſk, Amber, Ambergriſe, and Camphor; Dates, Liquorice, and many other medicinal Plants that were not known before. And he adds a Treatiſe on the Method of preparing Medicines, ſo as to render them more grateful and pleaſant to the Patient's Taſte.

And he is the firſt that mentions, or uſed any chemical Medicines, and introduced the chemical Art into the medical: He firſt introduced the Art of diſtilling Aqua Roſarum, Rutæ, *&c.* and firſt mentions Oleum Amigdalarum, and various other Oils, and ſome Preparations from Minerals or Metals, and various other Medicines and Simples, which were not known to the *Greek Phyſicians*, or at leaſt are not mentioned by any before him.

Rhazis was a Man of great Learning, indefatigable Induſtry, and great Experience; and beſides the Books before mentioned, is ſaid to have wrote ſeveral Books in Philoſophy, and twelve in *Alchemy*, or *Chemiſtry*, as well as theſe in Phyſick; by which he greatly improved medical Knowledge, in moſt if not all its Branches, inſomuch that moſt of the ſucceeding *Arabian Phyſicians* who came after him, have not done much more than copy from him; what Improvements they have made, I ſhall endeavour to take notice of. I have been more full in mentioning ſeveral of the Diſcoveries and Improvements which he made, becauſe I think the late learned Dr. *Freind* was too ſhort in treating on him, and his Works, in his *Hiſtory of Phyſick*; eſpecially as *Rhazis* was the firſt Author (except *Serapion*) that we have, who introduced the medical Art, and wrote well upon it, among the *Arabians*,

ans, who were but two Centuries before a barbarous illiterate People, and all Learning at that Time was neglected and loſt in all other Nations; and it is ſincerely wiſhed that we had as good and elegant a Tranſlation of all his Works, as the late learned Dr. *Mead* has favoured us with that of *his* on the Small-pox.

About forty Years after *Mohamed Rhazis*, lived *Haly Abbas*, or *Ali Ebnol Abbas*, as *Abul-pharajius* calls him[a]; he is uſually called *Magus*, as being one of the *Magi*, the Followers of *Zaraduſht* or *Zoroaſter*, and not for his Learning, as the learned Dr. *Freind* ſuppoſes. He was a *Perſian*, and ſtudied under *Abu Maher* another *Perſian* Doctor, who probably was of the *Magian Religion* alſo: He wrote his Book, or *Royal Work*, at the Requeſt of *Bowaia*[b] the Son of *Adado'ddaula* the Califf, to whom he dedicates it in the oriental Manner, in lofty hyperbolical Language, about A. D. 980. It was tranſlated into Latin by *Stephen of Antioch* in A. D. 1127, in which Language we now have it. He ſeems to have taken moſt of what he ſays from *Rhazis*, or might have done ſo; nor do we find that he has made any Improvements upon *Rhazis*, or his Predeceſſors, tho' he finds ſome Faults with all their Works, even with thoſe of *Hippocrates*; and his *Theory* is altogether *Galenical*, from whence no great

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[a] Abul-pharaj. Hiſt. Dyn. p. 214.

[b] Idem. Ibidem.

Improvement in the Art could be expected. Neither do we find any thing new in him, unleſs we ſuppoſe that he means and deſcribes that Diſeaſe which is now called the *Yaws*, in his Cap. *de Lepra*[c], as he has deſcribed both the Kinds of the *Arabian* Leproſy in the preceding Chapter, under the Name of *Elephantia*[d], as it is tranſlated; and this his *Lepra*, or the *Yaws*, ſeems to be the *Leproſy* of the *Jews*[e].

About twenty Years after *Haly Abbas*, flouriſhed the eminent *Abu Ali Al Hoſain Abdalla Ebn Sina*[f], commonly called *Avicenna*; he was born at *Aſhana* in *Choraſana*, A. D. 978, and ſtudied at *Bocara*, not far from it, a City famous for the Cultivation of the Sciences both then and ſeveral Ages after[g]. He was a Philoſopher, Mathematician, and an eminent Phyſician; he is ſaid to have written above a hundred Volumes[h], of which we now have only his *Canones Medicinæ*; he chiefly copies after *Galen*, *Rhazis*, and *Haly Abbas*; his *Theory* is the ſame as *Galen*'s was, and he is no leſs ſubtile and minute in the Definitions of his Temperaments, and the Diviſions of the Humours, *&c.* than *he* was; and in his Practice he generally follows *Rhazis* and *Haly Abbas*, and ſometimes ſome of the *Greeks*, tho'

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[c] Vide Haly Abbas, in Thoria, Cap. 16. Practic. Cap. 4.
[d] Cap. 15. Cap. 3.
[e] Obſerv. on the Diſeaſes of the Weſt-Indies, p. 339.
[f] Abul-pharaj. Hiſt Dyn. p. 229.
[g] Hiſt. of Genghizcan, p. 218.
[h] Ben Calican in Vaſyatalayan, in Genghizcan, p. 218.

tho' he does not in all things intirely copy after them; for he firſt mentions the *bloody Urine*, and *bloody Stools*, which ſometimes attend a bad kind of *Small-pox*, and the *Quincy*, which ſometimes comes on in the latter end of the Diſeaſe, which are very bad, and often fatal Symptoms; and he adviſes Bleeding at any time of the Diſeaſe, when a Plethora and Inflammation indicate it[i]. He was a Man of Learning, but ſo much addicted to Pleaſures, that he haſtened his end by them, and died at the Age of 57 at *Medina*, in A. D. 1136, and was buried at the City of *Hamadan*. He (as well as *Serapion*) mentions the Operation of cutting for the *Stone* in the *Kidney*; (but *Albucaſus* does not, tho' he lived after them) but ſeems not to approve of the Operation; ſo alſo does *Tulpius* and *Rouſſet*; and Conſul *Hobſon* was cut and had a Stone extracted out of his Kidney by *Dominico Marchetti* at *Padua*, and enjoyed perfect Health many Years after it[k]. We alſo find that ſome of the Surgeons at *Paris* performed the ſame Operation upon a Malefactor there, who recovered and lived ſeveral Years after, *viz.* in the Year 1498[l], which was ſeveral Years before Conſul *Hobſon* was cut.

The next Phyſician that was eminent, and whoſe Works are come to our Hands, is *Avenzoar*, who lived at *Sevile* in *Spain*, about A. D. 1050. He wrote his *Al-Thaiſſer*, containing all neceſſary Rules for Medicines and Diet to be uſed in moſt Diſeaſes. And altho' the ſeveral different *Sects* in *Phyſick* before mentioned, were in his time extinct, yet we ſee he often reaſons as the *dogmatick* or rational Sect did; and too often is influenced and led by the *philoſophical Theory of Galen*: However, as he lived to the Age of 135, and had ſeen a great deal of Practice, he made many Obſervations, and relates ſome Things which are *new*, or were ſo then. Dr. *Freind* ſays [l], he firſt deſcribed an *Abſceſs* in the *Mediaſtinum*, which happened to himſelf, and its Symptoms, which was cured by bleeding copiouſly; alſo an Inflammation ending in an *Abſceſs* in the *Pericardium*; neither of which, he ſays, are mentioned by any of the *Greek* or *Arabian Phyſicians* before him; but the Doctor muſt have overlooked *Galen* who mentions it long before [m]; and no doubt but both of theſe Inflammations, (and ſeveral of them which have ended either in a Mortification, or an *Abſceſs*, as a *Paraphrenitis* generally does, if a Reſolution be not made by Bleeding, and antiphlogiſtic Medicines) muſt have happened before, but were not ſo accurately obſerved and deſcribed before, and I believe oftener happen now than they are thought to do, as I have ſeen ſeveral ſeized with it, which were cured by ſpeedy large Bleeding, and a liberal Uſe of *antiphlogiſtic* Medicines internally and externally; and I have been called when an Abſceſs was formed in the Duplicature of the *Mediaſtinum*, which was cured by opening the Tumour juſt above the Diaphragm, when it was maturely ſuppurated; and the learned *Boerhaave*[i] moſt accurately deſcribed the *Paraphrenitis* and its *pathognomonic Symptoms*, and the proper Method of curing it, in his Lectures upon it. *He* ſubſtitutes *Goats Milk* inſtead of that of *Aſſes*, becauſe he ſays the *Mohamedan* Law forbids the latter: But both *Rhazis*[m], *Haly Abbas*[n], and *Avicenna* (as well as *Galen*, uſed Aſſes Milk before them) not only adviſe the Uſe of both Aſſes, Goats, Cows Milk, and Womens Milk alſo; and *Haly* adds *Butter-milk*[p]; and *Avicenna Camels Milk*[q]; and they all uſed *Wine* long before him, tho' the laſt is expreſsly forbidden by *Mohamed* in his *Choran*. The learned Dr. *Freind*[r] muſt have overlooked theſe Places quoted, when he ſays that *Rhazis* and *Avicenna* uſed Aſſes Milk chiefly externally, which they did, as well as

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[i] Canon. Med. Lib. 4. Fen. 1, 4. Vol. 2. p. 74.

[k] See Philoſ. Tranſact. Abridg. Vol. 3. p. 188.

[l] See Mezeray's Hiſtory of France.

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[l] Hiſt of Phyſick, vol. 2 p. 82.

[m] Galen. de Admin. Anatom Lib. 7. Cap. 13. dixit ἐπισήπτη γὰρ ὁ περικάρδιος, &c.

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[l] In Aphoriſ. de Cog. & Cur. Morb. Aph. [m] Rhazis ad Al-manzorem de Feb. Hect. Lib. 10. Cap. 3. [n] Haly Abbas in Pract. Cap. 26. [o] Canon. Med. Lib. 2. Tract. 2. p. 346, &c. [p] Haly, ibid. [q] Canon. ibid. [r] Hiſt. of Phyſick, vol. 2. p 92.

as Goats, Cows, and Camels Milk; but they all gave them inwardly alſo. He mentions *Bronchotomy*, but ſays he would not be the firſt that ſhould uſe it, tho' he thinks it practicable, and ſeems to recommend it in a violent *Quincy*. He alſo mentions a Stoppage in the Gullet, and is the firſt that mentions the *Provengue*, and its Uſe. He alſo in the Caſe of an Inability of ſwallowing any Food, or taking any Nouriſhment by the Mouth, propoſes the Method of ſupporting the Patient by nutritious Clyſters frequently injected; which Practice *Oribaſius* had uſed ſeveral Centuries before[s], and have been often uſed ſince with Succeſs by various Phyſicians. He alſo made ſome ſmall Improvements in Pharmacy, and is the firſt that mentions *Bezoar* as an Antidote; but when that coſtly Medicine is enquired into in a rational or experimental Manner, 'tis probable that it's greateſt Virtue conſiſts more in it's great Price, than in any real medical Virtue it has in it, and probably will be found to be no better than an *Alkaline* Powder impregnated with a little *Fel Agnini, vel Anguillæ*, or a little *Sapo Amigdal.* How much he may be eſteemed an original Author, I ſhall not diſpute with the learned Dr. *Freind*; but it ſeems moſt reaſonable to ſuppoſe, that when the *Saracens* extended their Conqueſts in the latter

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[s] Oribaſ. Collect. 8, 34.

end of the ſeventh, and in the eighth Centuries, as far as into *Spain*, and ſettled there, that they carried at leaſt ſome of the Works of the *Arabian Phyſicians* with them; and when they began to found Colleges at *Corduba*, *Toledo*, and *Salamanca*, it cannot be doubted but that they took care to procure the Works of moſt of their own, and the *Greek Phyſicians* and *Philoſophers* alſo, as they were then almoſt the only People who did encourage, or had any Taſte for Learning.

The next learned *Arabian* of Note, was *Averrhoes*, who alſo lived at *Corduba*, where he ſtudied Phyſick, Mathematicks, and the Law, and was afterwards made a *Kadi* or chief Judge of the Kingdom of *Andaluſia*; and as he was acquainted with the Sons of *Avenzoer*, he lived not long after him. He was a Man of fine Parts, and much Learning in thoſe Times, and wrote a Treatiſe which he called the *Colliget*, at the Command of the *Miramamolin* of *Morocco*, which treats on moſt Diſeaſes, but is chiefly collected from other Authors. He alſo wrote a Comment on the Works of *Ariſtotle*, and copied ſo much the *Theory of Medicine* of *Galen*, and was ſo great an Admirer and Follower of thoſe two Authors, and their imaginary Hypotheſes, that no real Improvements in the medical Art could be expected from him.

Abul-pharajius mentions a great many other *Arabian Phyſicians*, whoſe Works, if they wrote any, are loſt; and there are ſeveral others whoſe medical Treatiſes are ſtill in being; as *Alſaharavius* or *Abulcaſem*, *Iſaac Iſraelitus*, *Albengnefit*, *Alkindus*, *Jeſu Haly*, *Rabbi Moſes*, *Saladin*, and *John Meſue of Damaſcus*; but as they have nothing new, or material, but what they have taken from the other *Arabian Authors*, except the firſt and the laſt, I ſhall paſs over them. *Alſaharavius* compiled a Treatiſe which he calls *Al-Taſrif*, a Method of Practice, in 32 Books, moſtly taken from *Mohamed Rhazis*. He is ſuppoſed to have lived about A. D. 1085, but Dr. *Freind* thinks he was later[s], and that he was the ſame perſon with *Abulcaſem* or *Albucaſus*, becauſe he found at the end of the *Arabick* MS. of *Alſaharavius*, theſe Words tranſlated out of *Arabick*, and written in Latin thus, "*Explicit hic Tractatus de Chirurgia, eſtque* "*concluſio totius libri practices Medicinæ,* "*cujus Author eſt A'bul-caſem, &c. die* "*primo menſis Safar A. Hej.* 807;" which anſwers to A. D. 1404. He ſays the *Art of Surgery* was in his time almoſt loſt; and he might have added that of *Phyſick*, and all the other *Liberal Arts* alſo, eſpecially in *Europe*; and they were then begun to decline in *Aſia* alſo: However he endeavoured

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[s] Hiſt. of Phyſick, vol. 2. p. 187.

to revive the firſt, and prudently ſays that no Man ſhould pretend to undertake it, without being well verſed in Anatomy. He is the firſt that has deſcribed, and given us the Draughts of the Surgical Inſtruments then uſed in each Operation[t]. He was a very bold and hardy Operator, and uſed Cauteries frequently, and in many Caſes too liberally, where they muſt give much more Pain, and be much worſe than the Diſeaſe they were intended to cure. He firſt deſcribes the Method of cutting Women for the Stone; and he firſt deſcribes and recommends the ſame Method of cutting Men, as was practiced afterwards by *Frere Jaques* and *Profeſſor Rau*.

Johannes Meſue of Damaſcus, is the laſt of the *Arabian* Phyſicians in the Eaſt, whoſe Works are come to our Hands: He lived in the latter end of the twelfth Century, and publiſhed a Treatiſe on the Simples uſed in Medicine; and his *Grabadin*, or Compendium of ſecret Medicines, and on Diſeaſes: And whoever will take the Labour of examining thoſe Books, will find many Medicines which were not known to the *Greeks*, if we except *Actuarius* the laſt of them, who probably had the Knowledge of ſome of thoſe which he mentions, from the *Arabians*. For, notwithſtanding that the *Arabians* were ſuch a barbarous and illiterate People before the eighth Century, yet after that time their Califfs were ſuch great Encouragers of Learning, and the Knowledge of the Sciences, that the *Arabians* ſoon after became the moſt learned People of thoſe times; as all Learning in *Europe*, and in moſt Parts of the *Grecian Empire* alſo, were ſo neglected, that it declined as much there, as it was encouraged and improved among the *Arabians*, where it continued to be ſo till the fifteenth Century, when it began to decline among them, and to revive a little in *Europe* again, tho' very ſlowly, as we ſhall ſee. And during the time that it flouriſhed ſo among the *Arabians*, they made as great Improvements in ſeveral of the Sciences, eſpecially in *Phyſick* and *Aſtronomy*, from the eighth to the thirteenth Century, as the *Greeks* ever did in the ſame Space of time, if we except the time of *Hippocrates*, and after to the Death of *Galen* and *Aretæus Cappadox*. They not only give us the firſt Account and true Deſcription of the *Small-pox* and *Meaſles*, their different Kinds, their good and bad Symptoms, and the moſt rational and ſucceſsful Methods of treating and curing them, inſomuch that no Improvements were made therein, but on the contrary their Method was very much injured, by introducing the hot inflaming Regimen, by their Succeſſors, till the ingenious Dr. *Sydenham* revived their cooling Regimen again. They alſo firſt gave us a true and full Account, and the Deſcription of the *Lepra Arabum*, and diſtinguiſh its two different Kinds[a]; the *Elephantiaſis*[b], or *Lepra Judeorum*, or the *Yaws*[c]; and the *Dracunculus*, or *Guinea-worm*, and their Methods of curing them. And the *Arabians* alſo are the firſt that deſcribe and recommend the Practice of cutting for the Stone in the Kidneys, and are ſaid to have practiſed it, tho' few have ventured to follow them therein[d], as well as ſeveral other things mentioned before.

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[t] Meth. Medend. Chirurg. Aut. Albucaſe. Baſil. 1541.

The *Arabians* alſo firſt uſed and introduced all the *milder cooling Cathartics* into the Practice of Phyſick; as, *Sena*, *Rhabarbarum*, *Manna*, *Caſſia-fiſtula*, *Myrobalans*, *Tamar-Indorum*, or *Tamarinds*, and ſeveral other cooling *antiphlogiſtick Medicines*, and the Uſe of a more cooling Regimen in hot inflammatory Diſeaſes; alſo the Uſe of *Camphor*; and are the firſt that uſed *Sugar* in Medicine, with which they made various cooling, purging, pectoral, and other *Syrups*; and ſeveral Sorts of *Robs*, *Conſerves*, *Condits*, and *Confections* made with it, which rendered Medicines more pectoral, and much more pleaſant to the Taſte.

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[a] Rhazis in Diviſ. Lib. 1. Cap. 120. p. m 422. Et in Haly Abbas Theor. Lib. 8. Cap. 15. Practic. Lib. 4. Cap. 3, 4.

[b] Rhazis ad Manzor. Lib. 9. Cap. 93, & Diviſion. Cap. 107. p. 418.

[c] Haly Abbas Theor. Lib. 8. Cap. 16.

[d] See p. 158 before.

They alſo firſt introduced the *Chemical Art* into the *Medical,* and firſt invented the Art of diſtilling medicated Waters, *&c.* and prepared *Ol. Amigdal.* and a great many other Sorts of Oils, not now in Uſe; alſo various other chemical Medicines, both from Minerals and Vegetables, which ſhewed others the Way to invent and prepare many more afterwards. Thus they firſt diſcovered and introduced many uſeful and valuable Medicines into the Practice of Phyſick, which were not known to the *Greeks.* It is allowed that ſome of their Medicines are too much compounded; but it is moſt probable that they firſt learned the Method of compounding their Medicines ſo much from the *Greeks,* who it is well known had a great Variety of the moſt compounded Medicines that we have, many Ages before them; as the various *Theriacas* and many other kinds of *Antidotes,* which are more compounded than any of the *Arabian* Medicines are: However it may be wiſhed that neither of them had mixed ſuch a Number of (often contradictory) Ingredients in many of their Compoſitions, as we find they did; but we are not under any Neceſſity of following their Example therein. And how much ſoever the *Arabian Authors* may be contemned, and ſlighted by ſome of the Learned, it muſt be allowed that they made many uſeful Diſcoveries and great

Improvements in the *Medical Art*, tho' they did not in Anatomy, neither did the *Greeks* from the time of *Galen*; yet the *Arabians* made ſeveral in the *Surgical Art*, as well as in the *Medical*, and probably would have made many more, in all its Branches, if they had not been diverted from purſuing the judicious Method of obſerving and reaſoning, as the great *Hippocrates* did; by the plauſible Appearance of the philoſophical Reaſoning, from the imaginary Hypotheſes which *Galen* had invented and introduced into his *Theory of Phyſick*, agreeable to the Principles of the *Ariſtotelian* Philoſophy, which was much in vogue amongſt them, which all the *Arabian* as well as the *Greek Phyſicians* had then received and followed, and none of them more than *Avicenna* in all his *Theory* did.

During the time that Learning and the Sciences were cultivated in the Eaſt, they declined and ſunk, and Ignorance and Superſtition reigned triumphantly over all *Europe* in the Weſt; and the *Popes*, by the Aſſiſtance of their *Prieſts* and *Monks*, ruled and governed *Emperors*, *Kings*, and *Princes*, and their Subjects, with an abſolute Sway over their Minds, Liberties, and in general over their Fortunes alſo, during many Centuries: However, from the Beginning of the ſixth or ſeventh, to the End of the fifteenth Century, when, or ſome Years ſooner, Learning began ſlowly to emerge a little out of that ſlaviſh State of Ignorance, in ſome few Places in *Europe*. It is true the *School* of *Salernum* in *Italy*, was firſt eſtabliſhed in the ſeventh Century, and a *College* was founded there by *Charles the Great*, A. D. 802, and was the only College then in *Europe*; and Learning was encouraged there by *Robert* Duke of *Normandy*, Son of *William the Conqueror*, after he was in Poſſeſſion of that City in 1076; and the Sciences were intended to have been taught there: But Learning under the Direction of ſuch Men as reſided there, governed by the Influence of the *Popes*, made but a very ſlow Progreſs, during ſeveral Ages after, as we may ſee by thoſe few illiterate low Performances which they publiſhed; as the *Schola Salernitana*, written in *Leonine* Verſes, or rather in low *Monkiſh Rhymes*, by *John of Milan*, and inſcribed to Duke *Robert* of *Normandy*; and the Poem of *Ægidius* an *Athenian Benedictine* Monk, and *Archiater* to *Philip Auguſtus*, in the latter end of the twelfth Century, on the Virtues of Medicines, on the Pulſe, and Urine, *&c.* in Verſe; ſuch another low mean Performance; and the ſeveral bad Tranſlations of the Works of the *Arabian Phyſicians*, into the ſame ſort of low Monkiſh barbarous Latin. As it appears that the Phyſicians who lived and taught the medical Art there, ſpent moſt of their Time in learning the *Arabian Tongue*, and then in tranſlating either the Works of the *Arabian* Phyſicians, or the Works of the *Greek Phyſicians* and *Philoſophers*, out of *Arabic*, which the *Arabians* had before tranſlated out of the *Greek*, into their own Language: for notwithſtanding that *Italy* is ſo near to ſome Parts of *Greece*, and that the Works of moſt of the *Greek Phyſicians* and *Philoſophers* had been brought to, and were ſo well known at *Rome* ſeveral Centuries before this Time; yet we find, that ſoon after that Eſtabliſhment, all the Works of thoſe *learned Grecians* were either loſt or entirely deſtroyed; for, if they had been known in any Part of *Italy*, or in the adjoining Parts of *Europe*, towards the Weſt, they muſt have been known at *Salernum*, as it was the moſt eminent School for *Phyſick* and *Philoſophy* at that Time in *Europe*: But we find, that all they had of the Works of the *Greek Phyſicians* and *Philoſophers*, there were only the Tranſlations of them out of the *Arabic*, into their low barbarous *Latin*, from the Tranſlations of them out of the original *Greek*, into the *Arabian* Tongue: neither had they ſeen, nor did they know any thing of thoſe *Greek Authors* in their original Tongue, till *Mohamed*, Emperor of the *Turks*, came and took *Conſtantinople* from *Conſtantine* Emperor of the *Greeks*, *An. Dom.* 1453, when many of the *Greek* Chriſtians fled from that City, and brought with them the Works of the ancient *Greek* Phyſicians and Philoſophers in their original Language to *Salernum*, and ſome other Places in *Italy*; when, upon ſeeing theſe in their original Tongue; they learned that Language, and ſet upon comparing them, with the Tranſlations of them from the *Arabic*, which they had before; and upon correcting them, and reſtoring the true Senſe and Reading in their Tranſlations of them: For, till this Time, neither the Works of *Hippocrates*, *Galen*, or the other *Greek Phyſicians*, nor the Works of the *Greek Philoſophers*, were known in any Part of *Europe* for ſeveral Centuries paſt, except at *Conſtantinople*, and ſuch other Places in *Europe*, as were in the Dominions of the *Greek Emperor*; altho' they were very well known at *Rome*, and in moſt other Places in *Italy*, ſeveral Centuries before that time; but when the *Pope*'s Power was eſtabliſhed, and *Chriſtianity* was changed into *Popery*, both all the Works of theſe learned Phyſicians and Philoſophers, and the Works of many other learned Men, and almoſt all Learning alſo, were either deſtroyed, or ſome way loſt, and overwhelmed in the Deluge of Superſtition and Ignorance, which was introduced by the *Art* and *Craft* of *the Popes*, and their *Prieſts* and *Monks*: And if the Prudence and Authority of the *Greek Emperors* had not preſerved thoſe *learned Authors*, and they had not ſo refuſed to ſubmit to the uſurped Authority of the *Popes*, which cauſed that great Difference and ſo much Conteſt with the *Greek Church*, they probably would have been all conſumed, or loſt in thoſe Times of dark Ignorance, and we ſhould never have ſeen them. *Tantum potuit Religio ſuadere malorum*; or rather the Pretence of Religion.

And as the People of thoſe Days of Ignorance, had been taught to believe freely, even the moſt unintelligible Things, and the greateſt Abſurdities, in things relating to Religion; *credo quia impoſſibile eſt*, afterwards became a Proverb: So we alſo find, that the Phyſicians of thoſe Ages (who were moſt of them *Monks*) ſeem to have as implicitly believed all that they read in Phyſic, whether it was conſiſtent with *Nature*, *Reaſon*, or the Laws of the *animal Oeconomy*, or not. Neither did they aſpire ſo high, as to form *Hypotheſes*, or to reaſon upon the Nature or Cauſes of Diſeaſes, but ſimply believed, and followed what they read in the ill-tranſlated Works of the *Arabians*, and other Authors; and as the *Arabians* had too much followed the *Theory* of *Galen*, and the Philoſophy of *Ariſtotle*, ſo did they; ſo that it does not appear, that the Phyſicians of thoſe Times, made any Improvements, either in the *Theory* or *Practice of Phyſic*; neither could any be expected from them in thoſe unlearned ignorant Ages: And even after they received the Works of the ancient learned *Greeks* and *Arabians*, we do not find that they made any great Progreſs or Improvements, but ſimply followed what they read, and underſtood in them, without either reaſoning, obſerving, or enquiring; ſo that the Progreſs of Learning ſtill continued to be very ſlow, till the Beginning of the Sixteenth, and in the ſeventeenth Centuries.

However, during this Time, ſome Remains of Learning were ſtill preſerved in the *Grecian Empire*, and in *Africa*, and the *Eaſt*, as appears from the *Byzantine Hiſtorians*, &c. and the two laſt of the *Greek* Phyſicians, *Actuarius* and *Myrepſus*. *Actuarius*, the Son of *Zachari*, lived and practiſed at *Conſtantinople* in the twelfth Century, and has left us ſix medical Treatiſes in tolerable good *Greek*, tho' the Subſtance of them is chiefly taken from *Galen*, *Ætius*, and *Paulus*, and moſt probably from ſome of the *Arabians*; as he is the firſt *Greek* Author that mentions the milder cooling *purging Medicines*; ſuch as *Manna*, *Sena*, *Caſſia*, *Rhabarbarum*, and *Myrobalans*, which were firſt uſed by the *Arabians*, which therefore we muſt conclude, he had either from the Works of the *Arabians*, as ſome of them had been then publiſhed near 300 Years; or by correſponding with ſome of their, or ſome *Greek* Phyſicians who lived in the *Sa-*

raſen Dominions; as he ſays that he mentions ſome things which he had only heard of. And he gives us a more full Account of the Cauſe of a Palpitation of the Heart than we had before, and of its Method of Cure, eſpecially when it proceeds from a Plethora, by Bleeding and Purging, which is very rational.

And *Myrepſus*, who lived in the thirteenth Century, has left us a *Diſpenſatory*, written in much more impure, or more modern *Greek*, which contains an Account of moſt of the compound Medicines which were uſed by the *Greek* and *Arabian* Phyſicians at that Time.

Conſtantine of *Africa*, was born at *Carthage* in the eleventh Century, and travelled into the Eaſt, where he lived thirty Years, chiefly at *Babylon* and *Bagdad*, where he ſtudied the medical Art, and made himſelf Maſter of the *Arabic*, and the other oriental Languages, and then returned to *Carthage*; from whence he went into *Apulia*, and lived at *Reggio*, and at laſt became a Monk of *M. Caſino*. He is ſaid to have been the firſt that brought the *Greek* and *Arabian Phyſic* into *Italy* again. He compiled ſeveral Books; and has given us a Tranſlation of *Iſaac Iſraelitus on Fevers*, out of *Arabic* into *Latin*; and another Book, which he calls *Loci Communes*, which contains the Theory and Practice of Phyſic, which is chiefly copied from *Haly*

Haly Abbas. He died in the latter End of the eleventh Century.

During ſome Centuries before, and after this Time, we find that the *Jews* were the chief *Phyſicians* in *Europe*, (as they have been ſome Centuries paſt among the *Turks*) and were Phyſicians to moſt of the *Kings* and *Princes* in it: *Tarraguthus* and *Bulhabyliba Bengeſta* were *Archiaters* to *Charles the Great*, and wrote the noted *Tacuin* or Tables of Health. And *Zedekiah* a *Jew*, was *Archiater* to *Charles the Bald*, and we meet with ſome others who were Phyſicians to the *Popes*; but as they neither wrote, nor have left us any thing that is either uſeful, new, or worth reading, I ſhall ſay nothing more of them. And as to the Chriſtian Phyſicians in theſe ignorant Times, moſt of whom were Monks, Prieſts, or Friers, *viz.* during the twelfth, thirteenth, fourteenth and fifteenth Centuries: They chiefly ſpent their Time in commenting upon, or compiling from the Works of the ill-tranſlated *Greek* and *Arabian* Phyſicians, without either making any Obſervations on Diſeaſes, or in Anatomy, or in making any Improvements, or diſcovering any thing new, in either the Theory or Practice of Phyſic; and in Truth, did much more Hurt than Service to the medical Art.

Whilſt Learning was thus kept at this very low *Ebb*, by the Power and Influence of the *Popes* and their *Prieſts* and *Monks*, all over *Europe*; the *Medical Art* was little encouraged at any of the Courts, and the Study of it was almoſt totally neglected in the Univerſities, eſpecially at our's in *England*, tho' it was a little more encouraged at *Salernum*, *Corduba*, and at *Montpelier*; and the Practice of Phyſic being almoſt every where monopolized by the *Monks*, who in general had very little Learning, and as little Knowledge of either Phyſic, or any of the other liberal *Arts* and *Sciences* as poſſible; and ſome of them were ſo exceſſive ignorant, as to know very little of the *Latin* Tongue, or were able to read and write their Mother-Tongue; yet theſe ignorant Men took upon them to practiſe Phyſic, and to ſit as Judges on Diſeaſes, where a right Method of treating them might ſave, or a wrong Method deſtroy the Life of the Patient: And they were not ſatisfied with this, for they not only ſtole what they could collect from ſuch Books as they could read, but ſome of them publiſhed them as their own[a]; but they alſo violently and wickedly perſecuted ſome of thoſe few learned Men, which thoſe Ages of Ignorance produced, and chiefly becauſe they had more Learning and Knowledge of the *Sciences* than themſelves, and wrote ſome Things in the Mathematical,

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[a] See Dr. Friend, Hiſt of Phyſ. V. 2. p. 302. and at p. 254. and p. 260.

cal, philoſophical, mechanical, and chemical Way, which they did not underſtand; and by the Aſſiſtance of thoſe Arts, they performed ſome Experiments, and produced ſome extraordinary Effects by them, which the *Monks*, from their great Ignorance, could not comprehend: They therefore accuſed them of *Magick*, and perſecuted them for it in the *Inquiſition*, or their other wicked *ſpiritual Courts*, as they called them [b].

In theſe times of Ignorance lived ſeveral Men of great Learning for thoſe Times, beſides *Arnoldus de Villâ Novâ*, and *P. de Apono*, who were Mathematicians, Philoſophers, Chemiſts, and good *Phyſicians*; as *Gulielmus de Saliceto*, who lived about the Middle of the thirteenth Century, and is ſaid to have been the firſt *European Phyſician* that preſcribed any *chemical Medicines*:

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[b] Thus *P. de Apono*, who was a great Mathematician, Aſtrologer, Chemiſt, and Phyſiognomiſt, was accuſed by the *Monks* at Paris of *Magic*, and dealing in *Taliſmans*, and was perſecuted by the *Inquiſition*, but died before they could proceed to condemn him: He was burnt in effigy, others ſay he was abſolved, but others ſay he was actually burned alive. So alſo *Arnoldus de Villâ Novâ*, having ſpoke his Opinions on the *Monks* and their *Maſs*, a little too freely, and having ſaid that *the Works of Mercy and Medicine were more acceptable to God than the Sacrifice of the Altar*, the *Clergy* at Paris condemned 15 of his Poſitions, and he was obliged to fly to Frederick, King of Naples. And the famous *Roger Bacon*, notwithſtanding his great Abilities and Merit, as well as great Learning, was perſecuted by *Pope Nicholas*, and the Franciſcan Fryers, of which Order he was, for dealing in *Magic*, becauſe he performed ſuch wonderful Things, by the Aſſiſtance of mathematical and mechanical Principles, as their Ignorance and Stupidity could not comprehend.

He recommends two compound diſtilled Waters for the Eyes. But *Thaddæus*, who was *Profeſſor* of *Phyſick* at *Bologna*, firſt mentions *Spirit of Wine*, and a chemical Water, which he ſays is a good Medicine in a Dyſury.

But the *chemical Art* is ſaid to have been firſt invented in the moſt early Ages by *Vulcan* or *Hermes* in *Ægypt*[c], and was only applied to Metalurgy, till it was introduced into the *medical Art* by the *Arabians*[d], and was firſt brought into *Spain*, and ſo into the other Parts of *Europe* by them, in the Century before[e]; and about this time began to be cultivated and ſtudied by the *European* Phyſicians, and was conſiderably improved by them, eſpecially in the fifteenth and ſixteenth Centuries, as we ſhall ſee: However, ſome Diſcoveries were made in it before; and *Arnoldus de Villâ Novâ*, who lived in the Beginning of the fourteenth Century, firſt mentions an *Aqua Mirabilis*, an *Aqua Vitæ*, *Aqua Euphragiæ*, *olium Terebinthinæ*, and ſome other chemical Preparations: And ſeveral other eminent *Chymiſts* appeared ſoon after, who were Men of great Note in thoſe Times; as, *P. de Apono*, *Ramund Lully* of *Majorca*, *Roger* of *Parma*, *Albertus Magnus*, *Gordonius*, *Iſaacus Hollandus*, and ſome of our Countrymen; as *George Ripley*, a *Monk*, *Gilbertus Anglicus*, *Richardus Anglicus*, ſeveral of whom were both great *Chymiſts* and eminent *Phyſicians* in their time; but the greateſt mechanical Genius, and moſt learned Man of that Age, was *Roger Bacon*, a *Monk* of *Weſtminſter*, who was an able Mathematician, Philoſopher, Aſtronomer, Chymiſt, and a great Mechanick; and was the firſt Perſon that introduced the Knowledge of thoſe *Sciences* into this Nation (if not that of *Phyſick* alſo) unleſs you will ſuppoſe that the *Druids* underſtood thoſe *Sciences*, becauſe without ſome Knowledge of ſome of them, they could not poſſibly erect ſuch prodigious Monuments as their *Druid Temples* were, as we may ſee by the Remains of them. *Bacon* was born near *Ilcheſter*, A. D. 1214, and died A. D. 1292: He left ſeveral learned Treatiſes in MS. behind him, ſome of which are in the *Bodleyan Library* at *Oxford*, and ſome in the great *Library* at *Leyden*, and others in the *Harleyan Library*, now in the *Britiſh Muſeum*: Among which are, a Treatiſe on *Opticks*, and on *Perſpective*, in which he firſt deſcribes *Concave Speculums*, and their Uſe and Power of Burning; and the *Optick Tube*, or *Teleſcope*, and its Uſe; and treats on the *Reflection* and *Refraction* of the *Rays of Light*: And a Treatiſe, 1. *de Chemia*; 2. *Speculum Alchemiæ*;

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[c] Vide Boerhaav. Chem. Vol. 1. p. 12.

[d] Vide Serapion, Rhazis, Avicenna, et Meſue.

[e] In the 11th and 12th Centuries.

chemiæ; 3. *Theſaurum Chemicum*; 4. *De Secretis Artis, atque Naturæ operibus, et de Nullitate Magiæ.* He firſt took notice of and corrected an Error in the *Calendar*; from which *Pope Gregory* the Thirteenth reformed the *Julian Calender* 300 Years after.

He alſo firſt invented, and deſcribes the Materials and the Manner of making *Gunpowder*, and mentions its Noiſe, Light, and wonderful Effects which it produces: All which, as well as ſome other Diſcoveries which he made, as Dr. *Freind* juſtly obſerves [f], are wonderful Diſcoveries for a Man to make in ſo ignorant an Age, who had no Maſter to teach him; but it is ſtill more wonderful, that ſuch Diſcoveries ſhould lie ſo long concealed, till in the ſucceeding Centuries, that other People ſhould ſtart up, and lay claim to the Merit of theſe very Inventions, to which *Bacon* only had a Right.

Thoſe who deſire to ſee more of this great Man's Merit, may conſult his Works, publiſhed ſince Dr. *Freind*'s Death. And thoſe who would ſee more of the Riſe and Progreſs of the chemical Art, may conſult *Borrichius de Ortu et Progreſ. Chemiæ*; and *Agricola de re Metalica, Geber Rex Arabum*, and *Elementa Chemiæ Boerhaavii*, Vol. I.

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[f] Hiſt. of Phyſick, Vol. I. p. 238.

As we are ſpeaking of our own Countrymen, I ſhall alſo mention *John* of *Gaddeſden*, and his *Roſa Anglicana*, a Book which only ſerves to ſhew the Ignorance of the Age he lived in, and the Simplicity and Illiterateneſs of its Author, and his low Sort of Cunningneſs, which may rather ſerve to excite Mirth than inform the Judgment, though he was *Archiater* to the *King*, and Phyſician to the *Princes:* Neither was *Gilbertus Anglicus* much more learned, tho' he ſeems to be the better Writer of the two, and to have known ſomething more of the *Greek* and *Arabian Authors*, which he learned in *Italy*; and is the firſt *Engliſh Author* that mentions the Uſe of the *ſulphureous Baths*, and their curing a Man who had a broken Conſtitution: Whence we muſt ſuppoſe he means thoſe of *Bath*; and that he was cured by *drinking thoſe Waters*, and not by Bathing in them, which Dr. *Freind* ſays was 300 Years before any that are mentioned either by Dr. *Jones* or Dr. *Guidot*, who revived the Practice of drinking thoſe Waters about the latter End of the ſixteenth Century: But it is probable that the *Romans* both bathed in and drank thoſe *Waters* above a thouſand Years before, as ſo many of their Antiquities are frequently found there, and as the *Romans* were accuſtomed to drink the ſame Sort of ſulphureous Waters in *Italy*, we cannot but conclude, that they alſo drank thoſe at *Bath*, as well as bathed in them. But how ſo learned a Phyſician as Dr. *Freind* was, could take ſo much Pains as to write ſo many Pages on thoſe two Phyſicians, *John* and *Gilbert*, and their Works, and in treating on the *King*'s *Evil*, and its pretended Cure by the Royal Touch; a Popiſh Relique which no ſenſible old Woman can believe in, is very extraordinary; but the greateſt Men have their Foibles and their Parties.

Not long after *Gilbert* and *John*, lived *Guido de Cauliaco*, who made ſome ſmall Improvements in *Surgery*; though in general he takes moſt of what he ſays either from the ſixth Book of *Paulus*, or from *Albucaſus*.

But we muſt not paſs over *John* of *Ardern*, who was the firſt *Engliſh Surgeon* that we read of. He lived and practiſed 21 Years at *Newark* upon *Trent*, then came to *London* in A. D. 1370, whither his great Character had reached long before: He has left us a pretty large Volume of Phyſick and Surgery, chiefly on the laſt; and though that Art was conſiderably improved by *Celſus*, *Paulus*, and *Albucaſus* long before, yet he was the firſt who brought, or at leaſt revived it in this Nation; and he has ſeveral Things which were then new; and has made ſome Remarks and Obſervations, which may be uſeful even now to our Surgeons,

geons, as he was a Man of Learning and much Experience for thoſe ignorant Times.

There were alſo a few other Men, even in that Age, who had both Taſte and Genius, and had by their Diligence and Application acquired a tolerable Share of Learning and medicinal Knowledge, notwithſtanding all the Hindrances which the *Prieſts* and *Monks,* with all their Arts, gave to their acquiring them: But as no great Improvements were, or could be expected to be made under ſuch Diſcouragements, when the Works of Genius, and the greateſt Diſcoveries that Learning and Arts could produce, inſtead of being generouſly rewarded for them, they were charged with dealing in *Magic Arts,* and proſecuted by the *Monks* and *Prieſts* in the *Inquiſition,* in the moſt barbarous and cruel manner, as may be ſeen by the Proſecutions of *P. de Apono, Arnoldus de Villâ Novâ,* and the eminent *Roger Bacon,* who was the Wonder of the Age he lived in, and the greateſt Scholar and Genius for mathematical and mechanical Knowledge, which perhaps ever appeared in the World from the time of *Archimedes* to that time. And we find that the *Prieſts* and *Monks,* by keeping the *Laity* as much in Ignorance as they could, had ingroſſed and monopoliſed the *Practice of Phyſick* almoſt totally to themſelves; and as they impoſed what Terms and Rewards they thought fit, they were great Gainers by it, and were unwilling to part with it; wherefore they purſued it with much Art and Addreſs, in order to keep it to themſelves, to the moſt ſcandalous Neglect of their Duty almoſt every other Way, till the People could bear it no longer, ignorant as they kept them; inſomuch that the *Popes* and *People*, firſt at the Council of *Tours*, in A. D. 1139, then *Pope Alexander* the Third, in 1163, and *Pope Honorius* in 1216, were aſhamed of them, and publiſhed their ſeveral Edicts, forbidding the *Prieſts* and *Monks* to *practiſe Phyſick*: But notwithſtanding all theſe Edicts, as the *Monks* found the Sweets of it, they found out Ways, Pretenſions, and Means to evade all thoſe Edicts; ſo that the Practice of Phyſick ſtill continued almoſt entirely in the Hands of the *Monks*; except here and there a chance Lay-Gentleman, whoſe Genius inclined him to purſue the Study of *Phyſick*, notwithſtanding all the Obſtacles which the *Monks* could contrive, and caſt in his Way, to hinder his Progreſs therein; yet thoſe *Monks* who did practiſe Phyſick, were generally not only ignorant of the Art, but moſt of them were a Set of ignorant illiterate Men; but as they took care to keep the Laity as ignorant as themſelves, or more ſo if poſſible, they knew that they could not judge whether they had any Learning and Knowledge in Phyſick, or not, and therefore they impoſed what baſe Arts and Tricks on them they pleaſed. That this was the State of *Phyſick* in thoſe Days of Ignorance, is well known; and hence it is, that no Improvements were made in the Medical Art, for ſeveral Centuries, in all that long Time of Ignorance.

Thus the State of Phyſick continued till near the latter End of the Fifteenth Century, when Learning began to increaſe, and improve in ſome few Places, eſpecially in *Italy*, after they had received the Works of the *Greek* Philoſophers and Phyſicians, from *Conſtantinople*, in the Year 1453, as before obſerved. Not long after this Time, our Country produced two very eminent and learned Phyſicians, Dr. *Thomas Linacre*, and Dr. *Kaye*, better known by the Name *Caius*. Dr. *Linacre* was born at *Canterbury*, A. D. 1460; he firſt ſtudied at *Oxford*, and then went into *Italy*, where Learning was then much encouraged by *Lorenzo de Medicis*, the great *Duke* of *Tuſcany*, who ſhewed him great Favours; and was a great Promoter of all the *Sciences*, more eſpecially of the *Medical Science*. Here, Dr. *Linacre* made himſelf a Maſter of the *Greek* and *Latin Tongues*, and became well acquainted with the Works of *Hippocrates*, *Galen*, and the other *Greek* and *Latin Phyſicians*, and acquired much Medical Knowledge. After his Return to *England*, he publiſhed a Grammar of the *Latin* Tongue, that the *Engliſh* might learn it more eaſily, and underſtand its Purity, which but very few in *England* then did: He alſo publiſhed ſeveral other Things; he likewiſe gave us an elegant Tranſlation of *Galen*'s Fourteen Books *De Methodo Medendi*, into good *Latin*. He was a great Encourager of all Learning, and of the Learned; and was a very learned and able Phyſician. He was alſo made Tutor and Phyſician to *Prince Arthur* and *Prince Henry*, and *Archiater* to the latter when he became *King Henry* the Eighth. And as he ſaw that the Practice of Phyſick was moſtly engroſſed by illiterate *Monks* and *Empiricks*, who, in an infamous manner, impoſed upon the Publick: He projected Founding the College of Phyſicians, in order to prevent that Abuſe; and applied to the King, and by the Aſſiſtance of Cardinal *Woolſey*, procured Letters Patent for that Purpoſe from *King Henry* the Eighth, which were confirmed by the Parliament; and accordingly he founded the *College of Phyſicians*, Anno Dom. 1517, and was elected the Preſident of it, and continued to be ſo all the ſeven Years after, till he died in *Anno Dom.* 1524.

Dr. *Caius*, a learned Phyſician, was his Cotemporary, and publiſhed his Treatiſe *De Ephemera Britannica*, in A.D. 1555, four Years after that dreadful Diſeaſe made its laſt Viſit to the Inhabitants of this Iſland. It is probable that he was born at or near *Shrewſbury*, as he lived and practiſed Phyſick there. After his being ſome time at *Oxford*, he travelled into *Italy*, and ſome other Countries, in the Search of Learning, and was a very learned Phyſician, as appears from the above-mentioned Treatiſe, and another which he wrote and ſent to the learned *Geſner*, at his Requeſt, *de Canibus Britannicis*, when he was writing his Hiſtory of *Animals*, &c. both which Treatiſes are written in an elegant conciſe Manner, in pure *Roman* Latin. This *peſtilential Ephemera*, commonly called the *Sweating Sickneſs*, was a *new Diſeaſe*, which never appeared before now, neither has it appeared in any Nation, that we read of ſince, nor is it deſcribed by any Phyſician, either before or ſince. *Lord Bacon* mentions it in his Hiſtory of *Henry* the VIIth, and as it was a *new Diſeaſe*, and returned no leſs than four different Times, during the Life of Dr. *Linacre*, it is ſomething extraordinary that he ſhould neither leave us any Account of that Diſeaſe, or its Symptoms, and Method of Cure, nor ſo much as mention it in any of his Works that he left us, not even in any of the Notes on them.

As this was both a very extraordinary and a *new Diſeaſe*, and appeared at this Period of Time, it may not be improper to ſay ſomething of it here, from that elegant and judicious Account which Dr. *Caius* has given us of it.

He calls it *Ephemera Britannica,* as it was a true *Ephemera,* or a Fever of one Day, and finiſhed its Courſe in twenty four Hours time, if they recovered, and did not die within that Time, as many did; but it was a *peſtilential Ephemera,* as he calls it [a], and ſeized the *Engliſh* People only, and not the Strangers who were then here, not even the *Scotch,* who live in the ſame Iſland; and ſome of the *Engliſh* that were then in *Flanders, Holland, Scotland,* and *Ireland,* or in *France,* and not the Natives of thoſe Countries, except that it appeared in *Flanders,* and in ſome Parts of *Germany,* in the Year 1529, but did not return there again.

It firſt appeared in King *Henry* the VIIth's Army, when they returned from *France,* and landed at *Milford-Haven* in *Wales,* A.D. 1483, and continued in *London* from *September* the 21ſt, to the End of *October,* and then ceaſed [b]. It returned again in A.D. 1485, and continued from the Beginning of *Auguſt* to the End of *October,* and ceaſed again [c]; and returned again in the Summer of A.D. 1506 [d]; and again in 1517, and continued from *July* to the Middle of *December* [e], and then ceaſed; but returned again in 1528, and continued all the Summer: And laſtly, it returned again in the Year 1551 [f], and continued above five Months, and then ceaſed, and returned no more; nor has it been ever heard of in any Country ſince. It came always in the Summer time, in each of thoſe ſix Times which it viſited and afflicted this Nation, in ſo terrible a manner, though it was more violent and fatal in ſome of its Returns than it was in others, but it always ceaſed, and totally diſappeared when the cold Weather came in Winter.

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[a] Caii Ephem. Britan. p. 22. [b] Idem. p 19. [c] Id. Ibid. [d] Id. Ibid. [e] Id. Ibid.

In its fourth Viſit, or the third time of returning in 1517, it was ſo violent, that it uſually killed in three Hours time, from its firſt Seizure; and many of the *Nobility*, and in ſome Towns one half of the People died of it.

In the Year 1528, it uſually proved mortal in ſix Hours time; many Courtiers died of it, and King *Henry* the VIIIth was in Danger of it. But in its laſt Return it began at *Shrewſbury*, where Dr. *Caius* then lived [g], about the Middle of *April* 1551, and ſpread all over *England*, though it did not reach the moſt northern Parts of it till the End of *September*, and continued five Months, in which time many Thouſands died of it; and in one City 960 Perſons died of it in a few Days time [h]. Dr. *Caius* has deſcribed it in ſo elegant and conciſe, but in ſo moving and affecting a manner, that it probably will not be unacceptable to ſome Readers to tranſcribe a ſhort Account of it, in a Note, in his own Words *, as he deſcribes the cruel Ravage and dreadful Deſtruction

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[f] Idem, p. 20. [g] Idem, p. 9. [h] Idem, p. 15. He ſeems to mean Shrewſbury.

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* Sudor Britannicus.——Iſtam inclementer populum habebat, ut prope dicam omnes per ea loca (*Salopia*) et vicina illis proſterneret. Quoſdam enim in viâ, cum iter facerent, ſuſtulit; quoſdam domi oſtia et feneſtras reſerando interemit; quoſdam perluſum atque jocos parum jlocalariter jugulavit; per jejuna quoſdam; quoſdam per ſaturitatem abripuit; in ſomno aliquos, nonnullos vigiles interfecit: Uſque adeo, ut ex multis ejuſdem familiæ, pauci a febre incolumes perſtiterint; ex paucis, nulli plerumque intacti evaſerint. Ex his alios brevi momento, alios unius, duarum aut trium, alios quatuor, aut eo amplius, horarum ſpatio, poſtquam ſudare cæperant, de vita ſuſtulit. Sæpiſſimè qui in prandio hilares erant, ſub cænam mortui ſunt. Sed nemo qui devicto malo ſuperfuerat, ante horas viginti quatuor quam citiſſimè mali moleſtiâ et periculo liberatum ſe gloriari potuit. Itaque ex talibus initiis indies ingraveſcentibus, ubi acerbiora incrementa, longiùs latiùſque ſe fundente malo, ſubſecuta ſunt, vix credas quis pavor, quantus metus omnes Britannos invaſit; præfertim cùm ejus conditiones miſcrandæ, quæ tum urgebat, contemplatio funeſtaque mortis imago, nulli ſpem vitæ (cujus uſura omnibus ſolet eſſe cariſſima) non edemerit. Neque enim morbo ulla clementia fuit, nec ullum miſeris mortalibus ſecurum refugium. Etenim nuſquam non populabatur, nuſquam non ſæviebat malum. Alios qui ſe vivos ab hominibus relegârunt, eoſdem mortuos in publicum revocavit. Alios concluſos ac pené abditos, contagione enectos in apertum reduxit. Neque ſenſere id malum fœminæ aut ſervitia, plebeſque humilis aut media ſolùm, ſed proceres etiam, cûm notum ſit æquo pede nobiliumque turres humiliumque caſas id pulſâſſe, iniquis tamen modis, ut dicemus poſtea. In eo hic conquerebatur ſe ſiti premi, ille ardoribus conſumi, omnes ſudore confici. Hunc rurſum amentia cœpit, hunc gravis ſopor oppreſſit, hunc inquietudo exagitavit. Hic moribundus ingemuit, ille animam expiravit. Et qui valebat dudum, jam febreſcebat, verſâque vice, qui anté morbo laborabat, nunc alterius

ſtruction that it made, and the moſt terrible Effects which it had upon the miſerable ſuffering People. He then proceeds to deſcribe the Cauſes, the Manner of its Pro-
duction,

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alterius ſanitatem procurabat. In ſummâ, ita nulli feré hominum pepercit, ita in orbem crudele malum rediit, ut qui alios operâ officioque juviſſent priùs, eos viciſſim ab illis ſubſidium officiumque mutuum petere: et contrá, qui ab illis eſſent adjuti, eos ſine quiete, magnâ fatigatione operam mutuam præbere, inque vices gravi periculo colla ſub jugum mittere cogeret. Jam verô de fugâ (quæ aliàs in peſtiferis morbis ſolet eſſe præſidio) cogitare, aut in alium locum commigrare, inane et ſupervacuum planè fuit. Nuſquam enim tutus portus noſtris, nulla ex mutato loco ſecuritas erat, quòd nulla malo oberranti omnia requies eſſet. Alii tamen, relictâ urbe, in agros profugerunt; alii contrà, ab agris ad urbes convolârunt; alii rurſum receſſus atque ſolitudines ſalutis cauſâ quærebant; alii domo nunquam prorepebant. Sed cum parum id reſpondit, quod tanto ſtudio ſequebantur; aliis alia diverticula quærere, et alieno loco atque cœlo per interpoſita maria et longè ſemota loca ſe conſervare tutiſſimum viſum eſt. Hinc magnâ properatione quidam ad Belgas, quidam ad Gallos transfretarunt; ad Hibernos alii, alii ad Scotos ſe receperunt. At id quoque cùm minus ex ſententia cecidit, compertumque eſt laborioſius multó quám ad ſalutem commodius eſſe, divinam opem et conſilium domi cuique ſuæ expectare, omnibus certum atque conſtitutum fuit. Itaque malo victi, atque omni ſpe vitæ deſtituti, decubuere miſeri, eodemque ſæpe lecto vivus alter, alter mortuus, miſerabili conditione jacuere. Quod in ſuis non ferentes mulieres (infirmus ſexus ſed indulgens) nullâ habitâ ædium curâ, neglecto corporis cultu, ſine mente diſcurrebant (ut in tantâ animi perturbatione atque metu ſolet fieri) crebro ſuſpirio, multo ejulatu, et largo lacrymarum fonte omnia complebant; nil niſi mortes loquebantur, quis perfugio locus, quid faciundum percontantes. Supremum diem jam adeſſe,—et in ſuos intuentes, quæque alterius fidem opemque implorabat. Solicita his cura, ingens labor, ſumma laſſitudo; vix tamen omnes ſufficiebant ægrotantium miniſterio. Viri morbo intenti, nullam rerum ſuarum rationem habere, vitæ immemores, de morte cogitare. Etenim cùm magnâ ex parte omnes, tum acerbiſſimè viri malum ſenſêre. Quapropter operas negligebant omnes, commercia intermittlebant, funebria negotia curabant. Quoquo te vertiſſes,

duction, and the Symptoms of the Diſeaſe, as he accurately obſerved them, and the Method of curing it, as alſo the Manner of its going off by thoſe *copious critical Sweats*,

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tiſſes, cadaver conſpexiſſes. Continuus undique nolarum æneatum pulſus, confuſus ſonus erat.—Nihil enim difficilius, quàm magno dolori paria verba reperire. Ubique lugubris erat lamentatio, fletus mœrens, acerbus luctus. Erat in luctu Senatus, ſqualebat civitas, dolebat nobilis, mærebat ruſticus, triſtis aſpectus funerum, dolentium merorem exagitabat. Deflebat natum parens, parentem filius, uxor maritum, maritus conjugem, affinis affinem, amicus amicum, miſerandis planè modis. Neque ulla mali mortiſve graſſantis (impari tamen ſævitiâ) finis erat, ante expletos menſes quinque et eo amplius. Cœpit enim morbus ille *Salopiæ* (ubi artem medicam exercuit Author) Aprili menſe medio, nec in extremis Angliæ partibus, quæ ad ſeptentrionem ſpectant, niſi Septembri ultimo, poſtquam omnem regionem percenſuiſſet, finitus eſt. Quo temporis ſpatio quot in Angliâ perire, vix, credo, dici poteſt. Hoc conſtat, quod dolens refero, unâ civitate pauculis diebus plùs minùs ſexaginta ſupra nongentos crudeli morbo intercidiſſe.—Quis enim tantis miſeriis non poterit commoveri? Ipſe, dum hæc tragædia agebatur, preſens ſpectator interfui, non ſine meo gravi ſanè dolore.—Quocirca omnia diligenter obſervare, ſingula expendere curioſius conſtitutum mihi fuit, ut ita demum majorum noſtrorum more ad novos caſus temporum, novorum conſiliorum, rationes accommodare, præſidiis ſalutaribus afflictis rebus ſuccurrere fœliciùs commodiúſque liceret. Ita enim me poſſe aliquid præſtare non dubitabam, cum non leve ſtudiorum momentum deprehenderim *Obſervationem, cum Ratione indagationem*, tempus et periclitationem,—Atque id dum facerem, primum fuit ex cauſis atque ſignis non oſcitanter æſtimatis, noviſſe morbum. Deinde rationem inire quamobrem iſta evenirent, et ea noſtris potiſſimum: Atque an alios vis morbi conſumpſit, alios negligentia, caſus intemperantia, aut imperitia ſuſtulit. Ad id, cùm præceps populareque malum, eſſet, an non niſi ex contagione oriri potuiſſet inveſtigare. Ex quibus non magno negotio innoteſceret, quemadmodum iſtis omnibus occurrere medicamento conveniret.

Cum præceps igitur fervor circa cor, ſudorque inſequens, ſed non excedens horas viginti quatuor, cæteræque notæ, quas mox aperiam cum de ſignis agero, mali indicium fecerant, non erat difficile comprehendere febrem id eſſe ex contagione peſtilentem, unius diei naturalis, &c.

as an *Ephemera* often does in one Day, and other Fevers in a longer Space of Time; all which he deſcribes in a judicious and elegant manner.

This *peſtilential Ephemera,* vulgarly called the *Sweating Sickneſs,* was not only a *new* Diſeaſe, but had ſome things very ſingular and peculiar in its Nature, which are very different from all other *Fevers* that we either read or ever heard of, in ſeveral Reſpects: Firſt, as it was a *peſtilential Fever,* but of one Day's Duration, yet was fatal to ſo many thouſand People: Secondly, as it intirely ceaſed and diſappeared the firſt time during the Space of two Years; the ſecond time twenty one Years, the third and fourth times eleven Years each time, and the fifth time it was twenty three Years before it returned again, and has never been ſeen or heard of ſince in any Nation that we read of; it came ſix times in the Space of ſixty eight Years, and each time totally ceaſed and diſappeared upon the Acceſſion of the cold Weather in Winter, or ſooner.

But what is moſt extraordinary in this Diſeaſe is, that it had ſomething ſo peculiar in its infectious Nature, that it only ſeized and infected the *Engliſh,* and not the People of any other Nation, neither the *Dutch, Flemiſh, French, Iriſh,* nor even the *Scotch,* who are Inhabitants of the ſame Iſland, who were in *England* at thoſe Times when it ſeized the *Engliſh*; and the *Engliſh* were ſeized by it in all thoſe Countries, though the Natives of them were not: From whence that learned Phyſician judiciouſly concluded, that this peculiar Diſpoſition in the Conſtitutions of the *Engliſh* to be infected by it, muſt either have proceeded from their peculiar Diet, their Uſe of Malt Liquor, and their Manner of Living, or from the peculiar Diſpoſition of the *Engliſh* Air, or from both.

Dr. *Caius* was a learned and able Phyſician, and ſeems to have followed the *Hippocratic* Method of obſerving Diſeaſes and Nature, and *his* Method of Reaſoning and Practice alſo, more than any of his Predeceſſors did many Centuries before, or during ſeveral Years after his time; and he writes like a polite Scholar.

Cotemporary with, and ſoon after theſe two eminent Phyſicians, lived the no leſs eminent *Andrew Veſſalius*, who was born at *Bruſſels*, A.D. 1514, the greateſt *Anatomiſt* that any Age ever produced. He diſcovered and corrected various anatomical Errors, which *Galen* had made, by taking his Deſcriptions of ſeveral Parts of the Body, from the Bodies of Apes, and not from the Bodies of Men, as he clearly demonſtrated: For doing which, as *Galen* and his Works were then ſo much in Vogue at that Time, *he* was maletreated and much abuſed by *Sylvius*, and ſeveral other Phyſicians and Surgeons in his Life-time, and after his Death; but *his* Learning and Abilities were every way ſo much ſuperior to theirs, that they only loſt that Credit and Reputation which they had, and *he* gained by it.

And as Learning was now beginning to revive in *Europe*, and *he* was a very learned Man himſelf, being a Maſter of the *Greek*, *Arabian*, and *Latin* Tongues, and a great Encourager of Learning in others, theſe were ſufficient Reaſons for the *Prieſts* and *Monks* to look on him with an evil Eye, and envy him for it; and he ſeeing their great *Ignorance*, in return treated them with that Contempt which they juſtly deſerved for it, and ſometimes ridiculed and expoſed their great Ignorance, which was an unpardonable Crime with them; therefore they reſolved to be revenged upon him for it, and they either invented, or found an Opportunity of executing it ſoon after. *He*, with ſome other Phyſicians, attended a Nobleman in *Spain*, the Cauſe of whoſe Diſeaſe they could not diſcover; he therefore deſired Leave to open the dead Body, that he might find out the Diſeaſe, and its Cauſe, which was granted to him. And upon opening the Body, the *Monks*, who would be preſent, either did, or pretended that they did ſee the Heart of the Deceaſed move; wherefore they got the Relations of the Deceaſed perſuaded to accuſe him of Homicide before the Judges, and they accuſed him of Impiety before the Inquiſition of *Spain*; and the laſt (not the Judges) undertook to judge him for it: And what greatly aggravated his ſuppoſed Crime was, that *he* had a little before publickly diſſected the Body of a Whore, from whom a reverend Father or Monk had got his Death; (*N. B.* the *Lues Venerea* was then a new Diſeaſe) which he expoſed in his Lecture in the Anatomy School, by which the Monks were greatly inraged againſt him [a]; inſomuch that neither the Authority, nor the Supplications of the *King of Spain*, to whom he was *Archiator*, could ſave him from their Rage and Tyranny: But at laſt, by the joint Supplications of the *King* and *his Aulic Council*, they permitted him to expiate the ſuppoſed Crime, by going a Pilgrimage to *Jeruſalem*. Accordingly he went, and in his Return was caſt away on the deſert Iſland of *Zacinthus* in the *Archipelago*,

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* Neque miramur tamen Eccleſiaſticorum erga hunc Heroa: Vitam agebat quando vera reſurgebat linguarum et artium liberalium cultura. Literarum tunc ſtudio deditis volupe erat craſſos ubique Monachorum errores exponere, explodere, irridere.—Quin et tulit quam egerrime faſtum in Eccleſiaſticis Cenſoribus, horam deteſtans altum ſupercilium et pinguiſſimam ignorantiam.—Caſtiſſimos dein Sanctoſque horum hominum mores prodit, quando narrat hilaris, Studioſos ſuos pulcherrimæ meritriculæ, in quam deperierat Pater Reverendus, cadaver raptum Sepulchro, in Theatrum attuliſſe ad uſus Anatomicos, in rabiem fere acto Monacho, &c. Vide Veſalii Opera, in præfatione Boerhaavii et Albini.

pelago, where he miſerably periſhed from the Want of all Neceſſaries of Life. Thus died this eminent and learned Phyſician, and great Anatomiſt, after having made ſo many great and uſeful Diſcoveries in Anatomy, a Victim to the implacable Rage of the uncharitable, illiterate, and ignorant *Monks*, and the Craft and Cruelty of that unmerciful Church.

Cotemporary with *Veſalius*, was the eminent Anatomiſt *Euſtachius*, who was a Profeſſor of Phyſic at *Padua* in *Italy*; he being a little more reſpectful to the Church, and more cautious not to offend the ignorant *Monks*, obtained a Licence from the Inquiſition, to publiſh his *Opuſcula Anatomica*, but not for *his* other *anatomical Works*, and *elegant Tables*; ſo that the Learned were deprived of the great Benefit of the latter, as he died ſoon after; till the learned *Profeſſor Boerhaave* obſerving, that *Euſtachius* referred in *his Opuſcula*, to *his anatomical Tables*, he therefore wrote to Dr. *Lancicius*, the Pope's Phyſician, to ſolicit the Pope to give an Order to ſearch the Regiſters in *Italy*, in order to find where *Euſtachius* died; and then to enquire for thoſe anatomical Tables; and accordingly they found his Houſe, and the Copper-plates finely ingraved, laid in the Bottom of an old Cheſt, where they had lain above 150 Years, without being injured by time, from which we now have thoſe curious and valuable anatomical Tables printed at *Rome*; and reprinted ſince, and greatly improved by *Profeſſor Albinus* at *Leyden*.

Thus thoſe Tables were brought to light after ſo many Years, although Dr. *Lancicius* does not mention Dr. *Boerhaave*'s Name, as he was the Means of their being diſcovered; probably becauſe he dedicated them to the Pope, therefore was not willing to mention the Name of a Perſon whom he eſteemed a Heretick, as being the Cauſe of their being diſcovered, though he was ſo *eminent a Phyſician*.

Having thus given a ſhort Account of the State of Learning and medical Knowledge, both in the Eaſt and in moſt Parts of *Europe*, from their firſt Riſe down to the latter End of the fifteenth Century. And that excellent and ingenious *Art of Printing* having been invented a little before [i], and now began to be known and practiſed in moſt Parts of *Europe*: But we may obſerve, that this *Art of Printing* was not introduced into the World without great Oppoſition from the *Prieſts* and *Monks*, who accuſed one of its Inventors of *Sorcery* and *Magick*, and his being aſſiſted by the Devil to print the *Bible*, which was making a fooliſh ſilly Devil of him indeed, as it was not to his Advantage any way; therefore it is much more probable that he aſſiſted them to invent ſuch a ſilly Lye.

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[i] Viz. about the Year 1465.

After this, Books were publiſhed, and much more eaſily obtained than they were before by tranſcribing them, and many began to learn to read, and then to think for themſelves; and diſcovered that their Reaſon was beneficently given to them, to direct and govern all their Actions by, and that they had a natural Right to uſe, and be guided and governed by the Dictates of it: and if in the common Affairs and Concerns of Life, certainly in thoſe of the greateſt Importance, their Religion, and the Preſervation of their Health, Lives, and their Well-being, notwithſtanding all the Injunctions, Commands, and Pretenſions of the *Pope*, and his *Prieſts* and *Monks* to the contrary.

And the People having thus got the Eyes of their Underſtandings opened, the wiſer and more thinking Part of Mankind began to think, and ſoon ſaw the grievous Oppreſſions and the great State of Ignorance which they and their Anceſtors had been oppreſſed with, and laboured under ſo many Centuries paſt, chiefly by the Arts and Contrivances of the *Popes* and their *Monks*: This ſoon brought on the *Reformation* in ſeveral Parts of *Europe*, in the Beginning of the ſixteenth Century. And as *Men* began to *read* and *think* for themſelves, they alſo began ſlowly to emerge out of that State of dark Ignorance, in which they had been ſo long kept by Craft, and not only caſt off thoſe tyrannical Shackles which had kept them ſo, in reſpect to Religion, but in reſpect to all other Branches of Learning; and they began to enquire after Knowledge, and to cultivate the Sciences.

And as Learning was then much encouraged by ſeveral of the Proteſtant Kings and Princes in *Europe*, it ſoon began to revive, and Knowledge increaſed ſo much during the ſixteenth and ſeventeenth Centuries, that they produced more *learned* and truly *great Men* in every *Science*, than any other Age that we read of ever did; ſo that thoſe two Centuries may be properly called the *Two Ages of great Men*; ſome of which, eſpecially thoſe who contributed much to the Improvement of the medical Science, I ſhall mention in the Note below *.

SECT.

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* Dr. Linacre was born at Canterbury, A. D. 1460, and died at London, A. D. 1524, aged 64. Dr. Caius lived and practiſed Phyſic at Shrewſbury, A. D. 1551, and publiſhed his Ephem. Brit. Dr. And. Veſalius was born at Bruſſels, A. D. 1514, died in the Iſland of Zacynthus, A. D. 1564, aged 50. The great Lord Verulam was born at London, A. D. 1560, died at Highgate, A. D. 1626, aged 66. Dr. William Harvey was born in Kent, A. D. 1557, died at London, A. D. 1637, aged 80. Dr. Sanctorius was born at Iſtria in Italy, A. D. 1561, died at Venice, A. D. 1636, aged 75. Dr. Euſtachius was born in Italy, and was cotemporary with Veſalius in the 16th Century. Jacobus Berengarius was born at Carpo in Italy, in the latter End of the 15th or Beginning of the 16th Century. Dr. Gabr. Fallopius was born and lived in Italy

about

SECT. III.

On the IMPROVEMENT *of* MEDICAL KNOWLEDGE, *after the* RESTORATION *of* LEARNING.

HAVING brought our Inquiry into the Improvements that were made in the medical Art, from its firſt Riſe down to this Time, which was ſo remarkable for the Improvements made in all the *Sciences*, and for its producing ſo many eminent and learned great Men; let us inquire into thoſe great Diſcoveries and Improvements which were made after this to the preſent time.

And as I have given ſome Account of Dr. *Linacre*, Dr. *Caius*, Dr. *Veſalius*, and *Euſtachius*, though I ſhall have an Occaſion to ſay ſomething more of the two laſt, when we are ſpeaking of the Improvements which

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about the Middle of the 16th Century. Dr. Lower, Dr. Gliſſon, Dr. Ridley, Dr. Wharton, Dr. Havers, Dr. Willis, and Dr. Wainwright, were born in England. Dr. Nuck, Dr. De Graffe, Dr. Swammerdam, Dr. Drillingcourt, and Dr. Ruyſch, were born in Holland. Dr. Bruner, Dr. Peyerus, Hovius, Schellamere, Palphin, Valſalva, Steno, and Hermannus in Germany. Dr. Malpigius, Leal Lealis, Gagliardus, Borellus, Belini, Michæliotti, and Morgagni in Italy. Dr. Pequet, Vieuſens, Du Verney, Helvetius, and ſome others, in France, in theſe two Centuries. Dr. Sydenham was born in Dorſetſhire, A. D. 1634, died at London, A. D. 1689, aged 55. Sir Iſaac Newton was born

Dr. Boerhaave was born at Voorhout near Leyden, A. D. 1668, died at his Seat near Leyden, A. D. 1738, aged near 70. Dr. Fred. Ruyſch which have been made in Anatomy; and ſhall begin with the truly *great Francis Bacon Lord Verulam*, one of the greateſt Genius's that any Age ever produced; and although he was not a Phyſician, but a Lawyer and a Philoſopher, yet *he* firſt diſcovered and taught Mankind the right Way of Thinking, and the true Method of diſcovering Truth, and obtaining true Knowledge and Certainty, both in Philoſophy and in Phyſick, and all other Sciences. *He* was born in *London*, A. D. 1560, and educated at the Univerſity of *Cambridge*, where the *Ariſtotelian Philoſophy* was ſo much eſteemed and in ſuch vogue, that his *Ipſe dixit* was both there, and in ſome other Univerſities, taken for as full a Proof of the Truth of any thing in diſpute, as a Demonſtration was: But he firſt diſcovered the Errors and Falſeneſs of the Principles of that *Philoſophy*, and its ſubtile imaginary Hypotheſes, which had been followed by all the Learned the Space of above a Thouſand Years, and wiſely rejected both it, and all the fine ſubtile Hypotheſes, which many learned and ingenious Men had builded upon its erroneous Principles; and firſt diſcovered and taught both Philoſophers and Phyſicians, that the moſt certain way to arrive at the Knowledge of *Truth*, both in *Philoſophy* and *Phyſick*, is by making accurate Obſervations and judicious Experiments, carried on by juſt inductive Reaſoning, and confirmed by other Experiments.

And *his Lordſhip* having thus wiſely caſt off the Shackles of the *Ariſtotelian Philoſophy*, and ſhewed Mankind the right Method of Reaſoning, and arriving at Truth, and the Knowledge of *Nature*; and Men having their Eyes thus opened by the *Reformation in Religion*, and by *his Lordſhip* in *Philoſophy*, the wiſer and more attentive Part of Mankind began to think and make Obſervations and Experiments, and ſoon learned to reaſon right, and then to examine and judge for themſelves, which ſoon led them to make great Diſcoveries.

And accordingly we find that all the great Diſcoveries and Improvements, which were then made, or that have been made ſince, by the learned and ingenious Dr. *Harvey*, *Sanctorius*, *Sydenham*, *Lower*, *Boyle*, the *great Sir Iſaac Newton*, *Boerhaave*, *Locke*, *Leibnitz*, *s'Graveſand*, and all other great Men, have all been made by thoſe very Steps and Means which *his Lordſhip* firſt diſcovered, and clearly pointed out to them: And we may venture to ſay, that all future Diſcoveries and Improvements, both in thoſe and all other *Sciences*, muſt be made by the ſame Methods and Means.

And as *Galen* had founded *his Theory of Phyſick* upon the Principles of the *Ariſtotelian Philoſophy*, which *his Lordſhip* had proved to be erroneous and falſe, the more able and judicious Phyſicians, who lived after that time, began to diſcover the Errors of the *Galenical Theory*, and the Fallacy of his imaginary Hypotheſes alſo; which ſoon put them upon making Obſervations and Experiments, and to uſe the Method of inductive Reaſoning, which ſoon induced them to reject both the Philoſophy of *Ariſtotle* and the hypothetical *Theory of Galen*; and alſo put them upon ſearching for and endeavouring to diſcover ſome other *true Principles of Philoſophy*, and a more rational and *true Theory of Phyſick*, by making Obſervations and Experiments, aſſiſted by juſt inductive Reaſoning, as *Lord Verulam* had adviſed: And accordingly we find that the great Sir *Iſaac Newton* diſcovered the one, and the great Dr. *Boerhaave* the other, ſome Years after.

But *his Lordſhip*'s Merit and Abilities were too great, and *his* Knowledge too extenſive, to be ſeen and comprehended by the weak Underſtandings of his Cotemporaries (which was alſo the Caſe of his Nameſake the great *Roger Bacon*, and ſome other Men of great Abilities and Merit) neither were they known, except to very few, till they were diſcovered by the abovementioned great Men, and ſome others, ſome Years after *his Lordſhip*'s Death. Such is the Frailty of human Nature, and ſuch the Weakneſs and Wickedneſs of the human Heart, that this great Philoſopher, who truly merited the higheſt Honours due to Man, and the greateſt Rewards for his Labours, yet inſtead of thoſe *he* fell a Victim to the Vanity and Ignorance of a weak Prince, and the vile Ignorance of a flattering Party.

But *his Lordſhip*'s great Merit and Fame, has, like the fabulous Phœnix, riſen out of *his Aſhes*, and is, and ever will be, admired and eſteemed through all future Ages; unleſs Mankind ſink again into the ſame State of Ignorance, which they were in ſome Years before *his Lordſhip*'s time.

Cotemporary with *his Lordſhip* lived the eminent and ingenious Dr. *William Harvey*, who by making many accurate Obſervations and curious Experiments upon various Animals, aſſiſted by inductive Reaſoning, diſcovered the *Circulation* of the Blood: A Diſcovery, which together with that mentioned in the next Paragraph, gave ſuch a great and new Light into the medical Art, and laid ſuch a ſure Foundation to build a *new* and *true Theory of Phyſick* upon, that it gained both *him* and *his Country* no leſs Honour and Fame, than the Diſcovery has been greatly uſeful to all Phyſicians, and beneficial to all Mankind. He alſo made ſeveral other great Diſcoveries on the Generation of Animals, which he publiſhed in *his*

his two learned Treatiſes *de Circulatione Sanguinis, et de Generatione Animalium*, both which contain ſo many uſeful Remarks and curious Obſervations, that they are too numerous to be mentioned here, and may be the beſt known by reading them attentively over, and they well merit our beſt Attention.

At the ſame time lived the eminent *Sanctorius*, who was Profeſſor of Phyſick at *Padua* in *Italy*; who likewiſe, by making accurate Obſervations and ſtatical Experiments, which he continued near thirty Years, firſt diſcovered the Quantity or Weight of the ſubtile fluid Matter, which is continually exhaled and carried out of our Bodies by *inſenſible Perſpiration* and *Sweat*. A Diſcovery, which gave as much Light to the Knowledge of the animal Oeconomy, and into the Cauſes and Manner of Production of ſeveral Diſeaſes, and into the Methods of curing them, as that of the Circulation of the Blood did. But I muſt obſerve, that as ſubtile and imperceptible as this Evacuation is, yet we find that it did not eſcape the Obſervation of the penetrating Eye of the great *Hippocrates*; ſince we find that *he* had, by carefully obſerving *Nature*, and what Effects ſhe produced in the human Body, diſcovered two thouſand Years before *Sanctorius*'s time, that every Part of the Body had both its *abſorbing* and *exhaling Veſſels* or Pores, by which it both abſorbs into and exhales a fine ſubtile Fluid out of it: And *he* more than once ſays[a], *ἔισπνόον κάι ἐκπνόον ολλόν το Σώμα*: *Every Part of the Body abſorbs and exhales ſomething*. And *Galen* alſo, in his Comment on thoſe Paſſages, ſays[b], *This excrementitious Vapour is expelled through ſmall Orifices, which the* Greeks *call ϖόροι, Pores, diſperſed all over the Body, eſpecially all over the Skin, partly by Sweat and partly by αδήλος ἄιςθήσι διαπνόη, inſenſible Perſpiration, which eſcapes the Sight, and is known to few Perſons.*

But theſe Paſſages, both of *Hippocrates* and *Galen*, ſeem to have eſcaped the Obſervation of moſt, if not all Authors, till the time of *Sanctorius*: For, notwithſtanding that *Hippocrates* and *Galen* from him, did know that ſuch a ſubtile Matter was continually exhaled out of the Body in ſuch a manner, yet neither of them knew its Quantity, or ſuppoſed it to be ſo much as it really is; neither was it then, or before *Sanctorius*'s time, known to be of that Importance to the Preſervation of Health, and the Continuation of Life, as *he* found it to be, by carefully weighing himſelf, and all that he eat and drank, and what he evacuated other ways; by which he diſcovered, that the Quantity of Matter, which is carried out of the Body by inſenſible Perſpiration and Sweat, in every 24 Hours time, amounted from four to ſix Pounds in the Summer time, and from one to four Pounds in the Winter Seaſon in the warm Climate of *Italy*, which is equally, or near, as warm as *Greece* is: He alſo found that its Quantity was conſiderably increaſed by Heat, Exerciſe, Sleeping, and by ſome Kinds of Diet, and was much diminiſhed by Cold, Watching, Sitting ſtill, being wet, and other Sorts of Diet, and by the different Degrees of the Uſe of the ſix Non-naturals; which Variations in its Quantity, do greatly contribute to the Production of ſeveral Diſeaſes, as well as to the Reſtoration and Preſervation of Health.

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[a] Hippoc. Epidem. L. 6. Sec. 6. Aph. 1. p. 1190. Ed. Fæt. Lib. de Aliment. &c.

[b] Galen in Comment. ejuſd. Et in Lib. de Sanit. Tuend. L. 1. C. 12.

The ſame Experiments have been made ſince by Dr. *Keil* at *Northampton*, Dr. *Dodart* in *France*, and with great Exactneſs by Dr. *De Gorter* in *Holland*, and Dr. *G. Rogers* near *Cork* in *Ireland*, by whom ſeveral Improvements have been made therein, eſpecially by the two laſt Phyſicians, as to the Variations of its Quantity by different Kinds of Food and Exerciſe, as they were very exact, both in their Experiments, their Exerciſe, their Diet, and in the Uſe of all the Non-naturals, which we are told Dr. *Keil* was not ſo regular in, as ſuch Experiments require to be made with. And as the Latitudes of *Holland*, *England*, and *Ireland*, eſpecially *London* and *Cork*, are near the ſame, and the Climate near the ſame alſo, and are all conſiderably colder than it is in *Italy*, their Experiments are better adapted to our Conſtitutions, Air, and Manner of Living in *England*, than thoſe made by *Sanctorius* and *Dodart* in *Italy* and *France*. From Dr. *Rogers*'s Experiments we find, that the Quantity of Matter carried out of the Body by Perſpiration and Sweat, (which ſome more modern Obſervations and Experiments make it appear, that theſe two Evacuations are made by or thro' different excretory Ducts or Veſſels;) and that the Quantity of both taken together, is from 33 Ounces to 93, in every 24 Hours time in Summer; the Medium of which is 63 Ounces, which is equal to four Pounds, leſs one Ounce; and from 42 Ounces to 60 Ounces in Winter, the Medium of which is 51 Ounces, equal to three Pounds and three Ounces: So that we may take four Pounds for the uſual Quantity carried off in Summer, and three Pounds for the uſual Quantity in Winter, in every 24 Hours; but theſe Quantities are continually varying, by the above-mentioned Cauſes.

Thoſe who deſire to be more minutely exact, may compare all thoſe Authors together; or what may be ſtill better, may make the ſame ſtatical Experiments upon ſeveral different Conſtitutions at the ſame time here in *London*.

Theſe two great Diſcoveries being made, by the means of making Obſervations and Experiments, ſoon put ſeveral other learned Phyſicians and ingenious Anatomiſts, upon making further Reſearches and Inquiries into the Structure of the human Body, in order that they might more certainly know the Uſe, Office, and Actions of all the different Parts of it, and how and where all the ſeveral Secretions, Excretions, and all the other Functions of Life, are performed. And the learned *Veſalius*, having publiſhed his curious *Anatomical* and *Surgical Works*, about 60 Years before Dr. *Harvey* publiſhed *his de Circulatione Sanguinis*, in which he had not only corrected the Miſtakes and Errors of *Galen*, but had diſcovered the Structure of moſt Parts of the human Body, and the Uſe of many of them, as well as made ſeveral other great anatomical Diſcoveries; and having firſt delineated all the Parts of the human Body, in his elegant and curious anatomical Tables, which are ſo accurately drawn and deſcribed, eſpecially thoſe of the Muſcles, and ſome other of the ſmalleſt Parts of the Body, that they have not been excelled by any Anatomiſts ſince.

And the eminent *Euſtachius* having publiſhed his *Opuſcula Anatomica* near the ſame time, or a few Years after him, and before Dr. *Harvey*'s and *Sanctorius*'s great Diſcoveries were made; and had alſo delineated and ingraved his curious and moſt elegant *anatomical Tables* at the ſame time, altho' they were not publiſhed till many Years after, as before obſerved; in which he has traced out and accurately delineated the ſmalleſt Veſſels, and moſt minute Parts, that could poſſibly be diſcovered, without the Aſſiſtance of Injections; neither have any equalled theſe two great Anatomiſts, till *Profeſſors Ruyſh*, *Morgagni*, and *Albinus*, have ſince, by the Aſſiſtance of ſome curious Injections, diſcovered the Structure of the minuteſt Parts, and almoſt the ſmalleſt and moſt ſubtile Veſſels, where the different Functions of Life are performed.

Euſtachius alſo diſcovered the Uſe and Office of the *Kidneys*, and the *Tube* which paſſes from the Mouth to the internal Part of the Ear, and is called by his Name; alſo the *Vena ſine Pari* vel ΑΖΥΓΟΣ *dicta*. *He* alſo diſcovered the *Lacteals*, the *Receptaculum Chili*, and the *Thoracick duct*, in the Year 1564, although he did not diſcover their Uſe and Office; but theſe were diſcovered ſeveral Years after by the ingenious *Pequet*. And we alſo find that *Fallopius* had diſcovered thoſe two *Tubes*, which paſs from the *Ovaria* to the *Uterus*, and are called by his Name, before the Diſcovery of the Circulation of the Blood was made.

Theſe great *anatomical Diſcoveries*, and that of the *Circulation of the Blood*, and the *inſenſible Perſpiration*, being made ſoon after, excited ſeveral other eminent Phyſicians and able Anatomiſts to purſue thoſe Studies, and thoſe anatomical Reſearches, whereby ſeveral other conſiderable and uſeful Diſcoveries were made, and the Knowledge of the Structure of the Body, and the Uſe and Office of its ſeveral Parts, where the different Secretions, Excretions, and the other Functions of Life are performed, was greatly improved by ſeveral learned Authors, as we ſhall ſee hereafter; which have enabled Phyſicians to inveſtigate the Seat, the Cauſes, and the Manner of the Production of various Diſeaſes, as well as the Methods of curing them, with more Certainty and Succeſs.

But the *Chemical Art*, which ſome of its greateſt Admirers ſay, was firſt invented by *Tubal-cain*, the *Vulcan* of the Heathens, before the Flood; others ſay in *Ægypt* by *Thoth* the *Ægyptian Æſculapius* [a], but was then only applied to *Metallurgy*; but was much improved by the *Arabians*, and was firſt introduced into the *medical Art* by the *Arabian Phyſicians*, who invented ſeveral uſeful *chemical Medicines*, which they afterwards brought with them into *Spain*; and from thence, and from *Ægypt*, that *Art* was carried into moſt of the *European Nations*: At which time it was conſiderably improved by *Geber*, called *Rex Arabum*; and after him by ſome of the *Greeks*, as *Zozimus Panopolitanus*, and ſeveral others [b] who lived after them; though theſe *alchemiſtical Authors* chiefly employed that *Art* in the Operations of Metallurgy: But ſoon after the Knowledge of this *Art* was ſpread into ſeveral of the *European* Nations, it was firſt, by a Miſtake of the *Arabian* Manner of Speaking [c], chiefly applied in the medical Way, to the Invention of ſeveral Medicines for the Cure of Diſeaſes, and was much cultivated both by Phyſicians and others, in various Nations, eſpecially in *Germany*.

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[a] Boerhaav. Chem. Vol. 1. p. 79.

And ſome of the Phyſicians of thoſe Times, ſeeing that *Rhazis*, *Avicenna*, and the other *Arabian Phyſicians*, had made uſe of ſeveral *Chemical Preparations*, in their Method of curing Diſeaſes; they endeavoured to diſcover ſome other Chemical Preparations, and ſuch Methods of applying them, as that they might become uſeful in that Way, and thereby improve medical Knowledge: And accordingly we find, that our great *Roger Bacon*, *George Ripley*, *Albertus Magnus*,

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[b] Idem, p. 12.

[c] Idem, p. 15.

nus, *Arnoldus de Villâ Novâ*, *Raymundus Lully*, *Hermeſius*, *Iſaacus Hollandus*, *Bazil Valentine*, and ſeveral other eminent *Chemiſts*, by which the *chemical Art* ſoon became much in Faſhion: This induced ſeveral others to enter upon thoſe Studies, tho' ſeveral of them, not over well qualified for them, though ſome others were Men of Learning, and every way well qualified for it; as *Otto Tachenius*, *Crollius*, *Paracelſus*, *Van Helmont*, *Sylvius*, *Hartmannus*, *Hermanus*, *Le Febre*, *Glauber*, *Le Mort*, *Sendigovius*; and ſeveral Years after them *Boyle*, *Cox*, *Homberg*, *Slare*, *Le Mery*, *Geoffroy*, *G. Ern. Stahal*, *Hoffman*, *and Boerhaave*. Several of theſe ingenious and learned Men applied themſelves, in the different Ages in which they lived, to improving the chemical Art, and the three laſt eminent Men brought it to a State of great Perfection in their time.

The firſt of theſe eminent Chemiſts made ſeveral great Improvements in that Art, and diſcovered ſeveral uſeful Medicines; and ſome of them invented and diſcovered ſome of the moſt efficacious Medicines that we now have, and which were then found to be much more valuable and more efficacious Medicines in the Cure of ſome new Diſeaſes, which then made their firſt Appearance in *Europe*, as we ſhall here afterwards ſee, as well as in the Cure of ſome other obſtinate Diſeaſes, than any of their *galenical Medicines* which they had before were. Theſe Diſcoveries, and the extraordinary Cures which ſome of them performed with their new invented *chemical Medicines*, eſpecially in ſome of thoſe new Diſeaſes, made ſuch great Improvements both in the *Materia Medica*, and in the medical Art alſo, that it then turned the Thoughts and Intentions of ſeveral ingenious and learned Phyſicians, and eſpecially thoſe who ſo ſtrictly adhered to and followed the *Theory of Galen*, as the moſt then did, from purſuing thoſe anatomical Inquiries, by which further Improvements in the Knowledge of the animal Oeconomy, and the Cauſes, and the Manner of the Production, as alſo the Methods of curing Diſeaſes, might have been made, at leaſt for ſome time; and turned them to the Purſuit of the chemical Art, in hopes of making ſtill greater Diſcoveries by it. However, the medical Art was much more improved by theſe Means of the *Chemiſts*, than it had been by the *Arabians*, though they firſt introduced it into that Art.

But although ſome of theſe firſt Chemiſts were Men of Senſe and Learning; yet after that *Art* began to be faſhionable and much in vogue, there were ſome others of them who were Men of an uncommon Turn of Genius, and were as great Enthuſiaſts, both in the Chemical and Medical Arts, as any other Men ever were in Religion: And they not only pretended to tranſmute ſome of the baſer Metals into Gold, contrary to the Nature of Things, and the Laws of Nature; and if they could have ſucceeded in that impoſſible Work, it would only have rendered Gold as plentiful, cheap, and leſs valuable than Iron, becauſe it is leſs fit for Inſtruments and mechanical Uſes: But they would alſo pretend to infallibly cure all Diſeaſes, by ſome of their *new invented chemical Medicines*; a thing equally as impoſſible as the other, and ſhewed their Ignorance of the Cauſes and Nature of Diſeaſes. And as thoſe who are the moſt ignorant, are generally the greateſt Boaſters, ſo we find that none of them were more ſo than the vain boaſting paradoxical Enthuſiaſt *Paracelſus*, who had acquired ſo much Riches by curing the *Venereal Diſeaſe* with a *mercurial Unction*, the Knowledge of which Secret he is ſaid to have ſtolen from *Jacobus Berengarius* of *Carpo*, in his Travels thither; and was ſo illiterate, that he ſaid Philoſophy could be taught in no Language but *High Dutch*; but the true reaſon was, that he neither underſtood Philoſophy, nor any other Language: He alſo boaſted that he had a *Noſtrum*, which would prolong Man's Life to the Age of *Methuſalem*, but died himſelf at the Age of Forty-ſeven.

He was ſucceeded by his Scholar *Van Helmont*, who had much more Learning, but was as great an Enthuſiaſt, both in the chemical and medical Arts, as his Maſter, and embraced moſt of his paradoxical Opinions; and having more technical Terms, he frequently uſed them rather to dazzle and confound the Underſtandings of his Readers, than to inform their Judgments: And by thus giving his Writings a myſtical Air of Wiſdom, he rendered them obſcure, and ſometimes unintelligible, and they were thereby more eaſily impoſed upon the Publick and Vulgar, as ſublime and uſeful Truths. He alſo vainly boaſted that he could cure any *Fever*, in four Days time, by Sweating the Patient with one Draught of his famous *Noſtrum*, the *Præcipitatus Diaphoreticus Paracelſi*[f]; and further adds, "*That no Man deſerves the Name of a* "*Phyſician, who cannot cure any Fever in* "*four Days time.*" However he allows, that he ſometimes added a little *Theriaca* and *Wine* to it; which laſt, he ſays, "*Is* "*not only a great Cordial, but as a Vehicle,* "*is a proper Meſſenger to be ſent on ſuch an* "*Errand, as it knows the Road, is well re-*"*ceived wherever it comes, and readily ad-*"*mitted into the moſt private Apartments of* "*the human Body*[g]." Hence we learn, that Wine is not only a well-beloved, but a good-natured intelligent Being; though it ſometimes deprives Men of their Senſes for a time, when they take too much of it: And hence we alſo ſee a Specimen of this Author's Method of Reaſoning and Writing. He alſo boaſted like his Maſter, that he could cure all inflammatory and other Fevers, and even a Pleuriſy, without either Bleeding, Vomiting, Purging, Clyſters, or Bliſters: And he quarrelled ſo much with the two laſt, that he calls *Clyſters* a beaſtly Remedy; and ſays, that *Bliſters* were invented by a wicked Spirit, whom he calls *Moloz*[h]; but *Beelzebub* might have been as good a Name, ſince Dr. *Baynard* wittily ſays, that he believes he was only a great *Cantharid*[i]. And both *Helmont* and the *Doctor* were ſo far right, that Bliſtering was then, as well as now, much abuſed, and they are much oftener applied than they are truly indicated or uſeful.

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[f] Helmont. Opera, Cap. 12. 6.

[g] Idem. C. 12. S. 7.

Thus theſe two eminent Chemiſts, and too many of their Followers, often impoſed themſelves upon the Vulgar, and their Writings upon the unguarded Reader, for Men of profound Knowledge in the medical Art, and as great *Adepts* in Chemiſtry. And being puffed up with the great Opinion of their new Art, or new Medicines, and their own great Wiſdom, they not only rejected the ſubtile philoſophical Theory of Medicine of *Galen* and *Avicenna*, which was then ſo much in vogue: In doing which they were right, and might have done great Service to Mankind, if they had not ſet up their own imaginary *chemical Theory* in its Place, which was neither founded upon Obſervation, Nature, or Reaſon, nor had any Exiſtence, but in their own imaginary Hypotheſes: Thus they ſuppoſed a *Malignity* which cauſed all Diſeaſes, both inflammatory and other Fevers, which was to be forced and driven out of the Body by Sweating, with their hot chemical Medicines; therefore they attacked all *Fevers* with their chemical Ammunition, and attempted to carry them by *Fire* and *Storm*, with their *Præcipitatus Diaphoreticus*, and ſweating *hot Regimen*, which muſt have been fatal to many; and no doubt would have been ſo to many more, if *Van Helmont* had not allowed his Patients to dilute with a thin Diet, as he did, which might render that fiery hot Method leſs fatal: But as the learned Dr. *Freind* judiciouſly ſays, that if any did eſcape through that *hot Regimen*, it was through *a fiery Tryal*.

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[h] Idem, Cap. 7. §. 3.

[i] Baynard on Cold Bathing, p. 199.

Thus the Chemiſts, without any rational *Theory*, or any Regard to *Nature*, and what ſhe indicated or did; or duly conſidering how the *morbid Matter*, which cauſed the Diſeaſe, was to be concocted, and fitted to be carried off, by ſome critical Evacuation, or how to aſſiſt *Nature* to bring that *Criſis* on, according to the *Hippocratick Method*; or duly conſidering the Benefit of the rational cooling antiphlogiſtick Practice of the *Arabians*, they introduced their ſweating fiery *hot Regimen* into the Practice inſtead of them; and this hot Regimen was ſoon after brought into Practice here in *England*, and moſt other Countries; and continued to be much in vogue here many Years after, as may be ſeen by the Authors * of thoſe Times; till the judicious and honeſt Dr. *Sydenham* wiſely rejected and exploded it, and introduced the rational *Hippocratick Method* of *Practice*, and the cooling Regimen of the *Arabians*, which he ſeems rather to have taken, *ex ipſa re et ratione*, from Nature and Reaſon, than from the Works of the *Arabian Phyſicians*, with which he ſeems not to have been acquainted, as he never mentions them.

Van Helmont had alſo ſeveral other famous *Noſtrums*, with which he pretended to perform Wonders, as Quacks have done in all Ages, and as ſome do now; for Quacking never was more in Faſhion than it is now; and the chemical Art has ſupplied them with many more *Arcana* and *Noſtrums*, than the Ancients ever had in all their *Antidotes* and *Theriaca's*, &c. ever ſince the chemical Art was introduced into the Medical. We have now a WARD's *Pill, Drop,* &c. and the *Kermes Mineral,* called by ſome *Arcanum Carthuſianorum,* or *Monachorum,* a JAMES's *Powder,* and a Multitude of others, all ſold as *Quack Medicines,* which are Preparations from *Antimony.* And it is well known to Phyſicians, that moſt of the *antimonial Medicines* are very uncertain in their Operations (eſpecially the *Pill, Drop,* and *Fever Powder)* ſometimes not operating, and at other times, the ſame Doſe given to the ſame Perſon in the ſame Caſe, works ſo violently, as to produce very dangerous and often fatal Effects.

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* See Dr. Morton's Works, and ſeveral others.

It is true, theſe *antimonial Medicines,* eſpecially the *Fever Powder,* as it is called in the Quack-bills and Advertiſements, has been given to many, and ſometimes has chanced to have been given at, or a little before the coming of the *Criſis* of a *Fever,* when the Stimulus of the Antimony has increaſed the Momentum of the Fluids, and ſo aſſiſted *Nature* to bring on the *Criſis,* and carry off the Fever, and the Patient has recovered, though he laid in a ſtupified ſenſeleſs State a little before; which is no uncommon thing a little before the *Criſis* comes on, as is well known to Phyſicians: And we often ſee the ſame good Effects produced, by giving a few Drops of the *Vinum Antimoniale,* in a gentle cordial

Draught, that is not too much heating; and ſometimes from a common cordial Draught, or a Glaſs of rich Wine, given at that *critical time*, which has aſſiſted *Nature* to bring on the *Criſis*, and produced the ſame ſalutiferous Effects: But neither that *Pill*, *Drop*, or *Powder*, nor that *Wine*, given at another time of the *Fever*, when no Symptoms of an approaching *Criſis* indicated the giving them, can produce thoſe good Effects; but on the contrary they increaſe the *Fever*, and all its bad Symptoms, and ſometimes produce fatal Effects, as I have ſeveral times ſeen, when called in after the *Powder* has been ſo given (for I never did adviſe the giving it, having too often ſeen it thus injuriouſly given). And as it is well known to Phyſicians, that the *Vinum Antimoniale* of the Shops, is a more certain and ſafe Medicine in its operating, and is equally as efficacious, if not more ſo, it muſt be allowed to be a better Medicine than any of thoſe antimonial Preparations are, as it is ſafer and more certain in its Operation; if it be judiciouſly given at the proper time of the *Fever*, and fitly adapted to the Caſe, the Symptoms, Age, and Strength of the Patient, and is given when it is truly indicated; doing which ſhews the Judgment of the Phyſician: And ſeeing that moſt of the other *antimonial Medicines* are ſo uncertain, and ſometimes violent in their Operations, I think that no honeſt conſcientious Man will venture to give them in many Caſes, where they have been given, if he thinks the ſixth Commandment is to be regarded.

The Buſineſs and true Art of the Phyſician is to truly know the Diſeaſe, what *Fever* it is, what is its *Cauſe*, and how it is produced; and alſo what way *Nature* takes to carry that Fever off, and what ſhe indicates to the Phyſician to do, and how he ſhould aſſiſt her. For common Senſe will tell every Man that thinks, that no one Medicine, how efficacious ſoever it may be in ſome particular Caſes, can either be proper in all Caſes, or in all *Fevers*, much leſs can it be ſuitable at all times, in any one *Fever*, neither to all Conſtitutions, no more than one Coat can be made to fit all Men of all Ages; therefore it muſt often either do no good, or as often do much hurt.

And as to the ignorant Pretenſions of forcing *Nature* to bring a *Fever* to a *Criſis* when we pleaſe, as the vain *Aſclepiades* and the enthuſiaſtick *Chemiſts* pretended, every one who knows but the leaſt of the animal Oeconomy, and has ever obſerved how different the Times of the *Criſis* are in different Fevers; ſome in one Day's time, and others not till after the 40th Day. And if he has ever obſerved the Motions and Progreſs of *Nature* in *Fevers*, he cannot but know that the *Miaſma*, or *morbid Matter*, which cauſes a Συνέχεις, or *a ſlow continued nervous Fever*, or an *inflammatory epidemical Fever*, cannot in any of theſe be concocted and fitted to be caſt out of the Body by a critical Evacuation, ſo ſoon as the morbid Matter, which cauſes an *Ephemera* can, as that is uſually effected in twenty-four Hours time; although any of thoſe Fevers may come to their *Criſis*, on a different Day, in different Years.

Beſides this, the Difference of Conſtitutions, Ages, Sex, and Strengths, and various other Circumſtances, which muſt be conſidered and allowed for in different Patients, muſt make it evident and clear to every honeſt Phyſician, that knows how to think, that no Medicine, how efficacious ſoever it may be, when given at ſome particular time of a *Fever*, or in ſome particular *Fever*, can no more bring any *Fever*, or any one *Sort of Fever* to its *Criſis*, when we pleaſe, or in ſo ſhort a time as is pretended, no more than a *Pill*, *Drop*, or a *Paper of Powder*, can bring the *Small-pox* to Maturity in one Day, or make a Boy a luſty Man in one Year; ſince *Fevers* differ as much in their Manner and Times of coming to their *Criſis*, and going off, as they do in their *Cauſes*, *Symptoms*, and all their other Appearances, or in the Methods of curing them.

I have no Prejudice againſt any Perſon in ſaying this, neither any ſelf-intereſted, or any other View, but the general Good of Mankind, by endeavouring to prevent the many Injuries which are daily done by the Ignorance of Quacks.

Van Helmont was a learned Man, and acquired a great Name and Reputation, at leaſt for ſome time; but as neither his *Theory* or *Practice* were founded on *Nature* or *Reaſon*, nor conformable to them, the more judicious Phyſicians ſoon ſaw the Errors of them, and the Falacy of his new invented chemical Terms and unmeaning Phraſes, which only contained the Shadow, and not the Subſtance of the *medical Science*; therefore both his *chemical Theory*, and his *hot Regimen*, together with his *Writings*, ſoon ſunk into a State of Oblivion after his Death.

Notwithſtanding that the *chemical Art* was thus greatly improved by theſe extraordinary Men, who invented or diſcovered many valuable and uſeful Medicines, which they introduced into the *Practice* of the *medical Art*, in a no leſs extraordinary empirical Manner; and thereby ſhewed others the Way to follow them in ſuch a quacking Practice: Yet we muſt allow, that the more able and learned *Chemiſts* have greatly enriched and improved the *Materia Medica* ſince, by making many curious Experiments, and thereby diſcovering ſeveral new and very efficacious Medicines; not only from thoſe Semi-metals, *Mercury* and *Antimony*, and the various chemical Preparations from them, but from the more perfect *Metals*, and ſome other mineral Bodies, as well as a great Variety of Medicines which are prepared from both vegetable and animal Bodies; as, Salts, Oils, Eſſences, Spirits, Tinctures, Elixirs, and Extracts, *&c.* too numerous to be mentioned here, and not neceſſary, as they are well known to *Phyſicians*; for all which we are wholly indebted to the *Chemiſts*, as they were firſt invented and introduced into the *medical Art* by them: Although the Uſe and Application, as well as the Methods of adminiſtring them to the Sick, to cure various other Diſeaſes, than they were firſt uſed for, has been greatly improved ſince, by ſeveral learned and ingenious Phyſicians; not only in curing the Venereal Diſeaſe, which was a new Diſeaſe in *Europe* at that time, and often evaded their Attempts to cure it, with the beſt and moſt efficacious Galenical Medicines they had, till they diſcovered the Virtues and Uſes of *Mercury*, and ſome of the Preparations from it, which they found not only effectually cured it, but various other obſtinate Diſeaſes. The *Arabians*, it is true, were the firſt that uſed *Mercury*, and ſome of the Preparations or Sublimations from it, as a Medicine; but they uſed it chiefly externally[k]; as, to cure the Itch, Scabies, Morphea Alba, Nigra, the Albaras, and Aſapha: But *Mercury* is found to aggravate and increaſe the Virulency of the *Lepra Arabum*, which the *Greeks* by Miſtake called the *Elephantiaſis*; but it has been lately found that *Antimony*, and ſome of the chemical Preparations from it, has cured that terrible Diſeaſe, when taken in time[l], tho' it has been always called an incurable Diſeaſe[m]; as it really is ſo, when grown inveterate, and is further advanced. And it is moſt probable, that all the *medicinal Virtues* of that valuable mineral *Antimony*, and the chemical Preparations from it, are far from being ſo fully known (though ſome of them are) but that they may be further diſcovered, and its Uſe further improved in ſeveral Diſeaſes, by careful Experiments and accurate Obſervations, judiciouſly made by able Judges, who can reaſon right from ſuch Obſervations, and can truly account for both their good and bad Effects, and know how to remove the latter; which never can be expected from the Hands of *Quacks*, who uſe them the moſt, but do not know the better from the worſe Preparations of it, or probably know no other but that one or two

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[k] Vid. Rhazis, Haly Abbas, Avicenna, et Meſue in locis ante citat. [l] Obſervations on the Diſeaſes, &c. of Barbadoes. On the Arabian Lepr. p 329, &c. [m] Boerhaav. Elem. Chem. Vol. 1. p. 15.

which they have; and can neither account for the Cauſe of any Diſeaſe, or tell how their Medicine cures it, when it chances to do ſo.

During the ſame time that *Anatomy* and *Chemiſtry* were thus much improved; a new and extraordinary Diſeaſe was brought into *Europe* by the famous *Chr. Columbus*'s Sailors, from the Iſland of *Hiſpaniola* in the *Weſt-Indies*, where it was infectious, and was called by the Indians *Paturſa*, by the Europeans the *Lues Venerea*, or *French Pox*. It was brought into *Italy* by thoſe Sailors in the Year 1494 [n], when King *Charles* the VIIIth of *France* was beſieging the City of *Naples*, and communicated to his Army; and in a few Years after was ſpread into moſt Parts of *Europe*, *Aſia*, and *Africa* [o]. This Diſeaſe was *indigenous* in *Hiſpaniola*, and was not known in *Europe* before this time; ſo that the European Phyſicians were, at the firſt Appearance of it, entirely at a loſs to know what Diſeaſe it was; and no leſs ſo, how to cure it. From the Appearance of ſome of its Symptoms, ſome ſuppoſed it to be a Species of that Kind of Leproſy, which is the true *Lepra Arabum*, and by Miſtake called by the Greeks *Elephantiaſis*, though the Elephantiaſis of the *Arabians* is a very different Diſeaſe. Others, from the great Blotches and Scabs, which it then appeared with, ſuppoſed it to be a Species of that Kind of *Lepra*, which is now called the *Yaws* by the *Africans*, and moſt probably was the *Leproſy* of the *Jews*: Both which Diſeaſes had been brought into *Greece* and *Italy* ſome hundred Years before, and moſt probably from *Ægypt* or *Arabia*: However, theſe Diſeaſes were brought into *Spain* by the *Saracens*, ſoon after they conquered a great Part of that Kingdom, almoſt five hundred Years before this Time. All theſe three Diſeaſes, viz. the true *Lepra Arabum*, the true *Elephantiaſis* of the *Arabians*, and the *Lepra* or *Yaws*, are deſcribed by *Mohamed Rhazis* [q], *Haly Abbas* [r], and *Avicenna* [s]; although theſe Diſeaſes have been miſtaken and confounded with each other, both by ſome of the *Greek* and moſt of the modern Phyſicians; yet they are three different Diſeaſes [t], and are all contagious, as well as the *Lues Venerea*: and ſome have ſuppoſed the true *Elephantiaſis* of the *Arabians* to be ſo alſo; but I have not obſerved that it is ſo, though it may be an hereditary Diſeaſe. That the *Lues Venerea* is an infectious, or contagious Diſeaſe, is very well known, though the Virulency of its Poiſon, its Cauſe, Manner of being produced and

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[n] Fallopii Opera, et in Aphrodiſiac. de Morb. Gal. p. 762.

[o] Leo-African. Hiſtor. Afric.

propagated,

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[q] Rhazis Oper. ad Almanzor. et Diviſion.
[r] Haly Abbaſ. in Theor. & Practic.
[s] Avicenna Canon. Med.
[t] See Obſerv. on the Air and Diſeaſes of Barbadoes, p. 304, 322, and 339.

propagated, is greatly different from all thoſe other three, and from almoſt all other Diſeaſes that we know.

If we look into the Collection of the firſt Writers upon the *Lues Venerea*, after its firſt Appearance in *Europe*, called *Aphrodiſiacus*[u], which was re-publiſhed by the learned *Profeſſor Boerhaave*, Anno 1728, we may ſee how the Phyſicians of that Age were ſo ſtrongly attached and bigoted to the *Theory of Galen*, and that of *Avicenna*, which was the ſame, that they either ſo wreſted the Symptoms and Appearances of this Diſeaſe, to make them conform to what thoſe two Authors had ſaid, or ſo ſtrained what they ſaid in their *Theory* on the *Lepra*, and ſome other Diſeaſes, as to make their *Theory* of this *Diſeaſe*, and their Method of accounting for its Cauſe, Manner of Production, and all its Symptoms, as well as their Method of curing it, conformable to the *Theory* and *Practice* of thoſe two *eminent ancient Authors*, though neither of them had ever ſeen, heard any thing of, or ever mentioned this Diſeaſe; and they have taken many Quotations from them both for that Purpoſe. And as the *Lues*, at its firſt coming into *Europe*, uſually appeared with large Blotches and Scabs, all over the Body, ſomething like thoſe which uſually attend that Kind of *Lepra*, called the *Yaws*, which are uſually only in ſome particular Parts of the Body; and at other times with ſome Symptoms, which are a little like ſome of thoſe which attend the *Lepra Arabum*; ſome of them thought it was a Species of the one or the other of thoſe Diſeaſes; but the *Lues* differed greatly in all its other Symptoms, and its Nature, from either of them. The Symptoms, which attended the *Lues* during the 40 or 50 Years, after its firſt coming into *Europe*, were, firſt, Puſtules about the genital Parts, which ſoon after ſpread over the Body, eſpecially in the Face, and were attended with much Pain, ſome of which turned to excoriating Ulcers; ſome had Ulcers in the Penis, attended with a burning Heat; then came on nocturnal Pains, Shankers, Nodes, and Ulcers in the Joints, a Hoarſeneſs, Ulcers in the Uvula and Noſe, a Caries in the Bones, which ſometimes were eaten away, and Phagidenick Ulcers in various other Parts of the Body, and a Caries of the Bones there alſo. But no Appearance, or any Mention is made of either Buboes, or a Gonorrhœa then.

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[u] This Work contains what the 60 Firſt Authors write on this Diſeaſe.

As to their firſt Attempts to cure it, various Methods were tried, by Bleeding, Purging, Bathing, and Anointing, *&c.* but they were all without Succeſs; till *Jacobus Berengarius*, an eminent Surgeon, and a great Anatomiſt, of *Carpo*, who was the firſt that cured this Diſeaſe with a mercurial Ointment, which carried it intirely off by a Salivation; and by which he gained both a great Reputation and great Riches. The *Arabians*[k] were the firſt that uſed either *Crude Mercury*, or a *Chemical Sublimate* from it, mixed with Lard or other fat or oily Subſtances made into an Ointment, with which they cured the *Itch*, the *Morphea Alba, et Nigra*, the *Albaras*, and *Aſapha*, ſeveral hundred Years before; and it is probable that he took the Hint from them.

And *John de Vigo*, who was Phyſician to *Pope Julius* the IId. got the Knowledge of the Uſe of *Mercury*, in the Cure of this Diſeaſe, from *Berenger*, whom he ſucceeded in his Practice, and alſo gained great Riches by it: He alſo had, and deſcribes a *mercurial Cerate*, which he very much recommends in this Diſeaſe.

And it is ſaid that *Paracelſus* ſtole this Secret from *Berenger*, with which he quacked, and got ſo much Riches and Fame, as made him ſo inſolent, as to write that audacious and brutiſh Letter to the *King of Spain* and the *Pope*, when they ſent for him to come to cure ſome Perſons of great Diſtinction at the Courts of *Spain* and *Rome*, and he refuſed to come; for which, and his immoral Drunkenneſs, the Pope threatened to excommunicate him [l].

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[k] Vide Rhazis, *Avicenna, Albucaſus, et* Meſue.

Fracaſtorius, who died in the Year 1553, and publiſhed his Treatiſe on this Diſeaſe, and his Poem called *Syphilis*, not long before, ſays [m], that about twenty Years before he wrote, and forty Years after the firſt Appearance of this Diſeaſe in *Europe*, the Symptoms of it were very much changed from what they were before, and the Puſtules became much fewer, and the Nodes more numerous; but within the laſt ſix Years, the Change was ſtill greater, when very few Puſtules appeared, and thoſe hard and dry, attended with little and almoſt no Pain, but the Nodes were many; and what was the moſt extraordinary was, that their Hair, Beards, *&c.* almoſt all fell quite off, and they appeared ridiculouſly with bald Heads, and often loſt their Teeth; both which may be aſcribed to the Uſe of *Mercury* in the Cure. No doubt but the Loſs of the Teeth was from thence, from a Want of their knowing how to manage them better; but the Loſs of their Hair was probably from the Diſeaſe; and ſome loſt their Eyes. *Fracaſtorius*, I think, is the firſt among the Moderns that diſtinguiſhes (however the moſt clearly) not only the *Lues Venerea*,

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[l] —It is neither Thou Philip, nor Thou Leo, that can hurt me, or I fear,—for I have a Mine of Gold, as good as the King's in Mexico, &c. meaning the Riches he got by curing that Diſeaſe.

[m] Fracaſt. in Aphrodiſiac. p. 200.

Venerea, from all the different Kinds of the *Lepra*[n], but he alſo clearly diſtinguiſhes the *Lepra Arabum,* which the *Greeks* called Ἐλεφαντιάσις, from the true *Elephantiaſis* of the *Arabians,* and from the other Sort of *Lepra,* now called the *Yaws,* but from the true *Lepra Græcorum* alſo, as they are four very different Diſeaſes.

Although many were cured by the Uſe of the *mercurial Ointment,* yet many died under that Courſe of Salivation; probably from the Unſkilfulneſs of their Phyſicians and Surgeons, not knowing then how to treat their Patients right therein: One *Gonſalvus Ferrandus*[o], or *Gonſalvo Ferrand,* a *Spaniſh* Gentleman, and an Hiſtorian, who got the Diſeaſe at the Siege of *Naples,* and not meeting with a Cure in *Italy,* ſailed to the Iſland of *Hiſpaniola,* from whence the Diſeaſe came, to find how the *native Indians* cured themſelves there, which he found was by the Uſe of the *Lignum Guajacum*; and being cured by it, he firſt brought it (in a large Quantity with him) into *Europe,* and cured many with it, after his Return home, by which he gained great Riches; and this Method of Cure by the *Guajacum,* was ſoon as much in vogue as the *mercurial Unction,* eſpecially among the *Spaniards* and *Italians,* ſo that it was ſold for ſeven Gold Crowns, near 34 Shillings *Sterling* a

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[n] Idem, p. 204.

[o] Aphrodiſiac. p. 355.

Pound. And the Uſe of the *Sarſa-parilla,* and the *China Roots,* were ſoon after brought from *South America,* and found to be full as efficacious as the *Guajacum* in curing it, eſpecially the firſt of them; and has lately been found to ſucceed in ſome Caſes in this Diſeaſe, when the other, and even *Mercury* has failed.

After this, all who treated on this Diſeaſe, deſcribe the Manner of uſing all theſe three, as well as the *mercurial Unction*; though there probably is not much Virtue in the China Root. But they are deſcribed by none more accurately and fully, eſpecially in regard to the Regimen, *&c.* to be uſed with the Guajacum, than by *Ulricus de Hutten* [p], a *German* Knight.

Nicolaus Maſſa, who publiſhed his Treatiſe on this Diſeaſe, in Anno 1563, treats pretty largely and fully upon it, and its Symptoms, and alſo upon the Method of curing it, both with *Guajacum, Sarſa-parilla,* and *China Roots,* and *mercurial Unction* alſo; upon all which he is very minute and full: And he is the firſt that mentions *fumigating* with *Cinnabar* [q] in this Diſeaſe (for the *Arabians* had uſed it long before in ſome other Diſeaſes) and he is no leſs ſo, in his directing a ſuitable Regimen to each of them, and is very accurate in the Patients Uſe of the *ſix Non-naturals.*

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[p] Idem, p. 275, et in Præfat. Idem, ab H. Boerhaav.

[q] Idem, p. 99.

But both *N. Maſſa,* and moſt of the other Authors who wrote on this Diſeaſe about this Time, were ſo very fond of the Theory of *Galen* and *Avicenna,* that they frequently quote them to prove many things which they never ſaw, or ever heard any thing of; and often appeal to the *Greeks* for a Proof of them. However, *Maſſa* ſays, *adſunt—Apoſtemata Inguinum, quæ ſi ſuppurantur removent Ægritudinem*; by which he ſeems to mean *Bubo's.*

But *Fernelius,* who died five Years before him, viz. in Anno 1558, aged 52, I think is the firſt that mentions the *Bubo* and a *Gonorrhœa* [r], which was about 50 or 56 Years after the firſt Appearance of this Diſeaſe in *Europe:* From whence we muſt conclude, that a *Gonorrhœa,* which is ſo frequent an Attendant on this Diſeaſe now, never had appeared before this Time; ſince if it had, ſo remarkable a Symptom could not poſſibly have eſcaped the Obſervation of ſo many Phyſicians as wrote upon this Diſeaſe before him, yet none of them mention it.

Gabriel Fallopius the younger [s], who wrote ſoon after theſe, has given us the moſt full and clear Account of this Diſeaſe, and all its Symptoms; and deſcribes all the different Methods of curing it, which were then uſed, very minutely; and is very particular in deſcribing all the Changes and Effects which are produced in each Method, *viz.* by giving the *Guajacum*, the *Sarſa-parilla*, and the *China Root*, and mentions both the good and bad Effects of the *mercurial Unction* and Fumigation, when injudiciouſly uſed; and tells us how to prevent or remove thoſe bad Effects, which in ſome Caſes and Conſtitutions will happen when the Salivation is raiſed too high, if not relieved in due time. But ſeveral conſiderable Improvements have been made in the Method of treating and curing this Diſeaſe, by the *modern Phyſicians* and *Surgeons*, not only in the Manner of treating a *Gonorrhœa*, but in the Uſe of the *mercurial Unction*, and *fumigating* with *Cinnabar*, when they are neceſſary; but a much more eaſy way to the Patient, and as ſucceſsful, or more ſo in ſome Caſes, by giving the *Mercurius Calcinatus* in a proper manner, and the Decoction of the *Sarſa-parilla*, which I have known to ſucceed ſeveral times, when a *Salivation*, by giving Mercury internally, and by mercurial Unction, have both failed, and where *Chiconeau*'s and *Deſault*'s Methods have failed alſo.

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[r] Aphrodiſ. p. 614.

[s] Idem, p. 761.

Soon after this, another *new Diſeaſe* made its firſt Appearance; as we have no Account of its having been ſeen in any

Country

Country that we read of; the *Rachitis*, or *Rickets*, a Diſeaſe which neither any of the *Greek*, *Roman*, or the *Arabian Phyſicians* make the leaſt mention of; and is ſaid to have firſt appeared in the inland Parts of our *Iſland*, ſome time before the Year 1560. Our learned Countryman Dr. *Gliſſon* gave us the firſt Treatiſe on that Diſeaſe, which he has deſcribed very accurately, with all its Symptoms and its Cauſes, and the Method of treating and curing it.

This Diſeaſe, though it is not in the leaſt infectious, yet in a few Years after ſpread itſelf and appeared ſoon after in moſt of the northern Nations in *Europe*, and has continued to appear more or leſs ever ſince; and is now ſome chance time ſeen in the warmer Countries, though not ſo frequently as it is in the colder northern Nations. It only ſeizes Children, and moſt commonly between the Age of nine Months and two Years old; but uſually continues to affect them from that Time, till they are full grown, if they are not properly treated and cured. The firſt Symptoms of its Appearance, are a large Head and Face, which as well as the Neck is very flaccid and weak; the Belly protuberant and full, large full Joints, the Epiphyſes of the Bones being enlarged, the Muſcles and the reſt of the Body are relaxed and waſted; the carotid Arteries and jugular Veins are enlarged and full; the others in the reſt of the Body not ſo, but rather waſted and leſs; the Bones of the Legs, Back, or Arms, begin to be incurvated, and grow crooked, *&c.*

As this Diſeaſe appeared ſoon after the coming of the Venereal Diſeaſe, it was ſuppoſed to proceed from ſome Venereal Taint; but there are many Inſtances of Children having it, whoſe Parents and Nurſes never had the leaſt Touch of that Diſeaſe, as there may have been ſome others who had.

But as the learned *Profeſſor Boerhaave* has ſo accurately, truly, and fully deſcribed all its different Cauſes, and the Manner of its being produced, as well as the Method of curing it in ſo judicious and full a manner, that nothing more can be added to it, I cannot do the Reader more Service or Juſtice than refer him to what that *learned Profeſſor* has wrote upon it [t].

It may not be improper to mention here, another Diſeaſe alſo, which though it moſt probably had affected the Inhabitants, eſpecially in maritime Places, in the colder northern Nations, for many Years, if not Ages before this Time; but as they either had not any Phyſicians, or Men of Learning among them, that have taken care to obſerve and deſcribe it, or at leaſt have not left us any Deſcription of it before this

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[t] H. B. Aphoriſ. de Cog. et Cur. Morb. §. 1480, &c. et Prelecta Bar. Van Swieten ſuper hæc Aphor.

Time; neither have any of the *Greek*, *Latin*, or *Arabian Authors*, ſo much as ever mentioned it; wherefore it has been generally eſteemed, and thought to be a *new Diſeaſe*, and is now called the *Scurvy*; ſo called from its *German* Name *Scharboock*, which ſignifies an *Inflammation* in their Language. *G. Fabricius* ſays [u], that it firſt appeared in the Year 1486 in *Germany*, and ſpread itſelf very much; and not only proved very dangerous, as it often ended in a Gangrene, but carried Contagion with it; and he calls it a new and unheard-of Diſeaſe. And it ſoon after ſpread into *Holland*, *Denmark*, *Britain*, and the other northern Nations, where it has been ſometimes more, and other times leſs *Epidemical* ever ſince.

There was another Cauſe, which contributed much at this Time to the Increaſe of this Diſeaſe, viz. the long Voyages now made into both the *Eaſt* and *Weſt-Indies*; the Ways to both which were diſcovered a little before this Time, before which the maritime Inhabitants never made any long Voyages; but after they were diſcovered, the People who made thoſe Voyages were frequently detained two, three, or more Years on board the Veſſels, without the Uſe of Vegetables, and freſh Proviſions; and were obliged to live upon Salt-meats, and often to uſe putrified Water, and ſo many People confined to the narrow Compaſs of one Veſſel, where the Air that they breathed was putrified, and mixed with putrid Exhalations; from all which the putrid Sea Scurvy was generated, and brought on Shore at their Return home, and ſo ſpread among the People; and thus the Diſeaſe was greatly increaſed and propagated. But as *Severinus Eugalenus* has given us an Account of this Diſeaſe, its various Cauſes, and the Manner of Production of it, and the Methods which he found to be the moſt ſucceſsful in curing it, and is the firſt Phyſician that wrote upon it; and ſince that Dr. *Bruner*, *Brucerus*, *Senertus*, and ſeveral others, have done the ſame: But as the learned *Boerhaave* has ſo well deſcribed this Diſeaſe, and ſo accurately diſtinguiſhed its different Kinds and their Cauſes, and ſo judiciouſly adapted their different Methods of Cure, to each Species of this Diſeaſe, according to its different Cauſes; ſo that nothing more can be added to what he has ſaid in his *Aphoriſms* [w], and in the Explanations which he gave of them in his Lectures [x]: I muſt beg leave to refer my Readers to the attentive Peruſal of them, where they will meet with a full and ſatisfactory Account of this Diſeaſe, and its Cauſes, as

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[u] In Antiquitat. Miſniæ.

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[w] Vide H. Boerhaavii Aphoriſm. de Cog. et Cur. Morb. §. 1148.

[x] See his Lectures, publiſhed by the learned Baron Van Swieten, upon them.

well as its Method of Cure, which is too large to be inſerted here.

It was reaſonable to expect, that the making the two great Diſcoveries of the *Circulation of the Blood,* and of the *Inſenſible Perſpiration,* and the various Improvements in Anatomy, by the means of making careful *Obſervations* and accurate *Experiments* at this time, would have induced ſeveral other ingenious Phyſicians to have purſued the ſame Methods, in order to have made further Diſcoveries and Improvements in the *medical Science:* If theſe various Accidents and concurring Circumſtances had not happened a little before, and near the ſame time, which diverted the Thoughts of many of the Learned from purſuing thoſe Methods of making ſuch Obſervations and Experiments, as would have enabled them to make ſuch Diſcoveries and Improvements. The firſt of which was, the Appearance of theſe three extraordinary and *new Diſeaſes,* the *Lues Venerea,* the *Rickets,* and the *Scurvy,* which ſo much engaged the Attention of moſt of the learned Phyſicians of that Age, in order to diſcover the Cauſes and Nature of thoſe *new Diſeaſes,* and the Methods of curing them. Whilſt ſeveral others were intent upon either diſcovering ſome new chemical Medicines, or in endeavouring to diſcover the medicinal Virtues and Uſes of thoſe new invented chemical

Preparations, which were found out before, and how to apply them, in order to cure thoſe new Diſeaſes, or ſome others; whilſt thoſe of inferior Abilities were taken up with boaſting and extolling the Virtues of ſome other chemical Medicines, which they pretended would infallibly cure all Diſeaſes, which they kept as *Noſtrums*, as Quacks in all Ages have done. But what moſt probably was the greateſt Hindrance to the Improvement of all medicinal Knowledge was, that the Generality of the Phyſicians, of that and the preceding Ages, were ſo rigidly attached and bigoted to the *hypothetical Theory of Galen*, and ſo firmly believed his imaginary philoſophical *Hypotheſes* to be true, that it was looked upon as high Treaſon in Phyſick to diſbelieve or doubt of the Truth of any of them, though no real Improvements ever were, or could be made by them. The *Chemiſts* really made many great Diſcoveries of ſeveral very uſeful and valuable Medicines, and great Improvements in the Method of curing many obſtinate Diſeaſes with them: And ſeveral learned Men diſcovered the right Method of treating and curing thoſe three Diſeaſes, and thereby made many great Improvements in the medical Science. But thoſe *galenical Theoriſts* made none, and only applied the ſubtile Diviſions of *Galen*'s Temperaments, Faculties, and Qualities of the

Humours, and ſuch like imaginary Terms, which had no real Exiſtence in the Body, or any where elſe. but in their own Imaginations, to ſilence their Opponents with, in their philoſophical and theoretical Diſputations, as they often had no real Meaning or Senſe, which could be any way properly and truly applied to the real Motions and Actions of *Nature* in the Body: Therefore they could make no Improvements in the medical Science, nor ſerve any other Purpoſe than that of amuſing and diverting the Minds of the Learned and Ingenious, from purſuing either the ancient judicious *Hippocratick* Method of carefully obſerving Diſeaſes, their Symptoms, Progreſs, and their Diatheſis, and ſo diſcovering their Cauſes; and by obſerving what *Nature* did, or indicated to be done, learn of *her* how to cure them: But it alſo diverted them from purſuing the Method of making Obſervations and Experiments, as the ingenious Dr. *Harvey*, *Sanctorius*, *Veſſalius*, and a few others did; and by which anatomical and medicinal Knowledge, might have been greatly improved.

This continued to be the State of Phyſic till ſome Years after the great *Lord Verulam* had detected the Errors and Fallacy of the *Ariſtotelian Philoſophy*, and exploded them. And as the *Theory of Galen*'s *Phyſick*, and all his imaginary *Hypotheſes*, were founded upon the *Principles* of that *Philoſophy*, which were only ſuppoſititious and falſe; ſo muſt his *Theory* be alſo, though it had been for many Ages, and was then the only *Theory in Faſhion*: But as his *Lordſhip* had proved them to be erroneous, the more learned and wiſer Part of Mankind now began to enquire into the Truth of what *his Lordſhip* had ſaid; and ſaw that it was by thoſe very Means and Methods, which *he* adviſed and recommended, that the two above-mentioned great Diſcoveries were made: This therefore induced ſeveral *learned Phyſicians* and great *Anatomiſts* to purſue the ſame Methods of making *Obſervations* and *Experiments*, in order to make further Diſcoveries and Improvements, both in anatomical and medical Knowledge: And accordingly we find that many great Diſcoveries and very uſeful Improvements were made thereby, in both thoſe *Sciences*, ſoon after. As, by Dr. *Lower*, who wrote on the *Heart*; Dr. *Ridley* and *Willis* on the *Brain*; Dr. *Gliſſon* on the *Liver*; Dr. *Wharton* and *Steno* on the *Glands*, which were afterwards much further improved by *Profeſſor Nuck* in his *Adenographia et Siolographia*; Dr. *Bruner* on the *Pancreas*; *Pequet* on the *Lacteals, Receptaculum Chili, and Thoracick Duct*; *Leal Lealis* on the *Spermatick Veſſels*; (*Fallopius* had diſcovered the *Fallopian Tubes* before;) *Drilincourt* on the *Spleen*; *De*

Graafe de Organis Generationis Mulierum, et de Pancreate; Swammerdam de Utero; Malpigius de Glandulis, et de Ovo Incubato; Vieuſens in Neurographia, et de Novo Vaſorum Syſtemate Corp. Hum. Dr. *Havers* and *Palſin* on the *Bones; Gagliardus* on the *Teeth;* Dr. *Hovius* on the *Eyes; Valſalva, Du Verney,* and *Shelamere* on the *Ear,* and on *Hearing; Peyerus* on the *inteſtinal Glands;* and not long ſince, by the three eminent *Profeſſors Ruyſch, Albinus,* and *Morgagni,* the three greateſt Anatomiſts of this or any other Age.

Cotemporary with ſeveral of theſe laſt named eminent Phyſicians, lived the no leſs eminent and judicious Dr. THOMAS SYDENHAM, a Man of great Penetration, ſound Judgment, and the greateſt *Probity,* who the great BOERHAAVE ſays [a], "Was "the Ornament of *England,* and the *Apollo* "of the Art; whom I never conſider but "my Mind preſents me with the true Pic-"ture of an *Hippocratick Phyſician,* and to "whom Phyſick is ſo much indebted, that "all I can ſay will fall ſhort of his Merit." He clearly ſaw and duly conſidered the Inſufficiency and Fallacy of the *Theory* and imaginary *Hypotheſes* of the *Galenical Phyſicians,* and the Abſurdneſs and pernicious Effects of the *hot Regimen* of the *Chemiſts,* and their Followers: And therefore he judiciouſly revived and reſtored the ancient *Hippocratick* Method of obſerving Diſeaſes, and their Symptoms and Progreſs, and what *Nature* did, or indicated to be done; and then carefully followed thoſe Methods which ſhe indicated him to take, being very ſenſible that it was the moſt ſafe and effectual Way, and the beſt Method he poſſibly could take, to aſſiſt *Nature* to carry off Diſeaſes, and their Cauſes, by ſuch a critical Evacuation of the morbid Matter, as ſhe indicated, as the great *Hippocrates* did; for which he has been called the *Britiſh Hippocrates.*

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[a] In Oratione de Commend. Stud. Hippocrat.

It was by the ſame Method of obſerving *Diſeaſes* and *Nature,* that he was enabled to make ſo many uſeful Obſervations and great Improvements in the *Practice of Phyſick:* Firſt by diligently obſerving the different Seaſons of the Year, and the various Changes of the Air and the Weather, and how they differed in different Years; how thoſe Changes affected the human Body, and what Alterations they produced therein; and what kind of Fevers, or other epidemical Diſeaſes, either accompanied or followed thoſe Changes of the Air; and he as carefully deſcribed all the different *Fevers* and Diſeaſes, with all their peculiar Symptoms, as they appeared; how and with what Symptoms each of them came on; how they proceeded, and came to their Height; and how they declined, and came to their *Criſis*; and by what critical Evacuations each of them were at the laſt carried off: He alſo carefully took notice of the Number of Days in which each of thoſe *Fevers* came to each of thoſe Changes, and what Symptoms attended each of them in each Year, and remarked wherein they differed.

And by thus diligently watching Diſeaſes, and as carefully obſerving all the Motions and Actions of *Nature*, and what Ways and Methods *ſhe* did take, when ſhe produced the beſt and moſt ſalutiferous Effects; *he* was thereby inſtructed as *Hippocrates* was, by the ſame Maſter, *Nature*, both to know what *ſhe* indicated to him to do, and what Methods he ſhould take, in order to aſſiſt *her*, in the beſt and moſt effectual manner, to bring on a regular *Criſis*, and ſo carry the Fever, and the morbid Matter which cauſed it, entirely off.

Thus he was inſtructed by *Nature*, and learned to know, that when he found the Commotion of the Blood, and the Height and Violence of the Fever was too great to bring on a regular *Criſis*, and produce thoſe ſalutiferous Effects, both how and when he ſhould moderate and abate that Commotion of the Blood, and the Height of the Fever, either by Bleeding, or by ſome other Evacuation, accordingly as *Nature* indicated, ſo as to render the Fever moderate, and fit to carry on the Concoction of the morbid Matter in the beſt manner, and ſo aſſiſt *Nature* in the moſt judicious way, to bring on a regular *Criſis*, and carry off the Diſeaſe by a critical Diſcharge, in the ſafeſt and moſt effectual manner. And on the contrary, when *he* found *Nature* too weak, and the Pulſe too low and ſmall, and the Motion of the Blood too languid, ſufficiently to comminute or break, and concoct the morbid Matter, ſo as to fit it to be carried off by a critical Diſcharge: He thus learned to know when and how he ſhould increaſe the Vis Vitæ and Momentum of the Blood, by the Uſe of Cardiacks, Bliſters, and a more cordial Diet, ſo as to aſſiſt *Nature* to effect that ſalutiferous Work. Thus he was taught by *Reaſon* and *Nature*, both when and how *he* ſhould aſſiſt *her*: And *he* has beneficently told us what Methods he found were the beſt and the moſt ſucceſsful, as well as when he had uſed any Method which did not ſucceed according to his Expectations.

By this Method of obſerving the Progreſs of epidemical Diſeaſes, and what *Nature* did in the Cure of them, he not only learned how to treat and cure them, but it diſcovered to him the bad and pernicious Effects of the *fiery hot Method of treating Fevers*, which the *chemical Phyſicians* had introduced into the *Practice of Phyſick*, which was then much in vogue: Therefore *he* judiciouſly oppoſed and exploded it, and expoſed the fatal Effects of it, and wiſely ſubſtituted the rational and more ſucceſsful cooling Regimen, which he revived and introduced into Practice, in its Place; not only in the Cure of the *Small-pox* and *Meaſles*, but in other *Fevers*, eſpecially in all thoſe of the *inflammatory Kind*, and in all inflammatory Diſeaſes: And taught them, and us, how to cure thoſe Diſeaſes by Bleeding, and the Uſe of cooling antiphlogiſtick Medicines, and a cooling, diluting, attenuating Regimen: To which, in ſome Caſes he judiciouſly added cooling antiphlogiſtick Catharticks; as, in the *inflammatory Rheumatiſm*, *Quincy*, the *Nothous Pleuriſy*, and *Nothous Peripneumony*, and in an *Ophthalmia*, and ſome other *inflammatory Diſeaſes:* In all which he carefully obſerved *Nature* and *her* Indications, and ſo judiciouſly timed thoſe Evacuations, as always to aſſiſt, and never to oppoſe or hinder *Nature* in her ſalutiferous Endeavours: And *he* was enabled to know how to do this, by the means of careful Obſervations and judicious and true Reaſoning. And the learned *Boerhaave* has ſince demonſtrated the Truth and Judiciouſneſs of that *Practice;* and both *he* and ſeveral other eminent Phyſicians have confirmed the Rectitude of it, by their ſucceſsful Practice of it ſince.

He alſo firſt diſcovered the right Method of giving the *Peruvian Bark*, a valuable new Medicine then, which had been imported from *America* into *Europe* a little before that time; the Virtues and right Uſe of which were not then well known: And as ſome Phyſicians had then found it to be ſo ſucceſsful in curing intermiting Fevers, it induced them to give it in ſome that were continual, in ſome of which it proved to be very injurious or fatal; and ſo it has proved ever ſince, at certain times, when ſo imprudently given: And ſome others have been ſo injudicious, as to give it in ſome inflammatory Fevers, in which it generally proves to be fatal, if not timely prevented; by which Practice that valuable Medicine had almoſt entirely loſt its Credit, and was very near being entirely rejected out of the Practice at that time, though the Fault was not ſo much in the Bark as in the injudicious Method of giving it; till the honeſt and worthy Dr. *Sydenham* both reſtored the right Method of giving it in intermiting Fevers; and diſcovered the bad and ſometims fatal Effects which it had, when given in continual Fevers; more eſpecially in thoſe of the inflammatory Kind, or where Obſtructions are already formed, or are beginning to form, or an Inflammation is beginning to form, in any of the Glands of the Viſcera; in all which Caſes, giving the

Bark, produces ſuch *irremoveable Obſtructions*, that they either end in a Suppuration of the Part obſtructed, in a Schirrus, or in a Mortification of the Part, and the Death of the Patient; but moſt frequently in the firſt, as I have ſeveral times ſeen, and have oppoſed giving the Bark, and more than once predicted its producing ſuch Obſtructions, if given; and have ſeen the Predictions more than once verified. And when the Bark is given where Obſtructions are already formed, more eſpecially in the Glands of the Viſcera, which too frequently happen in wet or moiſt warm Countries, as in the uncultivated or half-cultivated *Weſt-India* Iſlands, and on the North-coaſt of *South-America*, and too often in the low marſhy Lands in *England*, and in *Holland*, &c. If the Bark be given without previouſly removing thoſe incipient Obſtructions, it generates irremoveable Obſtructions; and if they are already formed, it renders them incurable, ſo that nothing but a Suppuration, and a total Deſtruction of the Part, can cure it; but they too often end in the Death of the Patient, as that ſagacious and learned Phyſician Dr. *Boerhaave* has judiciouſly and truly obſerved; and as ſeveral other eminent Phyſicians have found to be true, in their Obſervations made ſince. And I may add, that I have too often met with ſuch Obſtructions which had been ſo formed, and I queſtion not but ſeveral other Phyſicians have obſerved the ſame in their Practice: And I have alſo ſeveral times foretold, that if the Bark was given in ſuch Caſes, that it would produce ſuch irremoveable Obſtructions, and could not therefore join in giving it; and I have afterwards not only ſeen thoſe Obſtructions ſo formed and ſuppurated, but diſcharging large Quantities of concocted Matter or Pus: And in order to prevent ſuch Miſtakes for the future, is the Reaſon that induces me to mention it in ſo full and particular a manner here.

And we are greatly obliged to both Dr. *Sydenham* and Dr. *Boerhaave*, for their giving us ſuch judicious and wiſe Cautions, as well as for many more which they have given us in other Parts of their moſt valuable Works. And Dr. *Langriſh*[i] ſays, "*that* "*in inflammatory Fevers the Bark is a direct* "*Poiſon*;" and it is probable has been too often fatal, as I have ſeen when called in too late to give any Aſſiſtance, or prevent thoſe fatal Effects; though I have, in ſome other Caſes, ſeen where the *Bark* had been given in ſome inflammatory Fevers, that Bleeding, Fomenting, and a liberal Uſe of antiphlogiſtick Medicines, have ſaved the Life of ſuch a Patient, and therefore I mention it.

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[i] Dr. Langriſh Modern.

I have no prejudice againſt the *Bark*; when it is properly and judiciouſly given, it is a valuable and an exceeding good Medicine; but when it is improperly given, it does much miſchief. Its extraordinary Effects in preventing, or putting a Stop to a Mortification, from an internal Cauſe, (but not when it is from the Arteries being oſſified,) have been diſcovered ſince, and are now known to every Phyſician; as an Account of it was publiſhed above thirty Years ſince by the late Dr. *Douglas*, an eminent Man-midwife and Phyſician in this City.

To enumerate all the uſeful Obſervations, the judicious Remarks, and the many great and valuable Improvements which that honeſt, able, and judicious Phyſician Dr. *Sydenham* did make upon Diſeaſes, and in the Practice of Phyſick, would be tranſcribing the greateſt Part of his Works; therefore I cannot do more Service to every young Phyſician, than in ſtrongly recommending the attentive Peruſal of all *his Works*; and I may add, *et magis decies repetita placebit.*

Cotemporary with, and ſome Years after Dr. *Sydenham*, lived the truly great Sir ISAAC NEWTON, who was, and ever will be, an Honour to his Country.

This great Philoſopher and Mathematician, applied himſelf early to the Study of Geometry, and all the other Branches of the Mathematicks, in which *he* made a prodigious Progreſs, under the Tuition of the great Dr. *Barrow* at *Cambridge*; and by diligently purſuing thoſe Studies afterwards, and making many accurate Obſervations and judicious Experiments, improved by inductive Reaſoning, as the great Lord VERULAM adviſed, he diſcovered, and demonſtrated the Truth of the *Copernican Syſtem of the World.* But what is more to our preſent Purpoſe here, *he* by making many curious Obſervations and ingenious Experiments, aſſiſted by inductive, geometrical, and mechanical Reaſoning, diſcovered thoſe *Laws of Motion* by which all *material Bodies* move and act, and produce all their Effects, (*Fire* only excepted, which *moves* and *acts* by *Laws* peculiar to itſelf only.) And as *he* has clearly demonſtrated the *Truth* of thoſe *Laws of Motion*, and from them, by the Aſſiſtance of juſt inductive Reaſoning, formed a *new* and *true Syſtem of Philoſophy*, and a *new* Method of *philoſophical Reaſoning*, which carried ſuch Demonſtrations of its *Truth* with it, and gave ſuch a new Light into Philoſophy, and all the Sciences, as clearly diſcovered the Truth of his Syſtem of the Univerſe; and at the ſame time ſhewed the Miſtakes, and demonſtrated the Errors of all the former Syſtems of Philoſophy, which had been invented before; but it alſo ſhewed Mankind the right Way to arrive at the certain Knowledge of Truth, in all ſuch difficult and abſtruſe Subjects.

As he clearly demonſtrated the Truth of thoſe *Laws of Motion*, and that all the Motions and Actions of all Bodies (except *Fire)* may be clearly accounted for and explained by *them; they* have been univerſally received by the Learned of all Nations, where the Knowledge of them has come, as being certainly true; and as ſuch, have been received into all the Arts and Sciences. And all other Syſtems of Philoſophy, ſo far as they differ from the Principles of the *Newtonian Philoſophy*, have been rejected as being erroneous.

And as the ingenious Drs. *Harvey*, *Sanctorius*, *Veſalius*, *Euſtachius*, and ſeveral other eminent Anatomiſts, had (not many Years before) made ſo many great anatomical Diſcoveries, and ſo much improved the Knowledge of the Structure, Uſe, and Action of the ſeveral Parts of the Body, and the Circulation of the Blood, and inſenſible Perſpiration, as well as where moſt of the Secretions and Excretions, and the other Functions of Life are performed; as theſe are all performed agreeably to thoſe *Laws of Motion*, and by *Hydraulick Laws*. And if theſe *Laws of Motion* had been always truly applied, when and where they are truly applicable, (and only where they can be ſo truly applied) by Phyſicians, ſince Sir *Iſaac* diſcovered them, to explain all the Motions and Actions of the human Body, and to account for all the Effects which are produced in the Body, by and agreeably to thoſe *Laws*; as alſo to explain all the Effects produced in Diſeaſes, mentioned and obſerved by *Hippocrates*, and all other Phyſicians ſince him; and had always kept their Reaſonings, Explanations, and Inductions, as conformably to thoſe *Laws of Motion*, the Laws of Circulation of the Blood, and the Motions and Actions of Nature in the Body, as Sir *Iſaac Newton* did apply them to explain the Motions and Actions of *Matter* in all other Bodies; and then had taken care to confirm the Truth of all their Inductions, and Concluſions, by further Obſervations, as Sir *Iſaac* did in *his*, we might have reaſonably hoped to have ſeen medical Knowledge further improved, and brought to greater Perfection, than it is yet arrived to.

It is granted, that we cannot always apply thoſe *Laws of Motion* ſo certainly and truly to all the Motions and Actions of *Nature* in the Body, as they may be applied to Matter, or Body; becauſe we cannot ſo certainly diſcover the firſt moving Cauſe of *Nature*, whether it be from the Will, or from Senſation of the Part affected, or intelligent *Nature*, or whatever we call it, which probably either is not Matter, or

Matter of a ſuperior and finer Nature; but whatever it be, we can obſerve the Effects which *Nature* ſo produces, becauſe they are produced in *Matter*, and by the *Laws of Motion of Matter*; and we may, by carefully reaſoning from thoſe Effects, in an analytical Way, arrive at the firſt moving Cauſe, call it *Nature*, *Senſe*, or *Senſation*, or what you will, which firſt puts the circulating Fluids in Motion, and increaſes that *Motion*, and then they act according to the *Laws of Motion*, whereby we may be enabled to explain how they produce their Effects.

To do all this truly, I grant, is a very difficult thing, and ſome may call it a Herculean Labour, as it requires much accurate Obſervation, the deep Penetration, ſound Judgment, and indefatigable Application of an *Hippocrates*, and a *Boerhaave*; therefore ſome may conclude that it never will be effected; but ſuch a Concluſion is not the Way to effect it.

The learned *Boerhaave* has gone a great Way in thus diſcovering the Cauſes, and the Manner of the Production of moſt Diſeaſes, and in explaining both; as well as in diſcovering and explaining the moſt rational, true, and moſt ſucceſsful Methods of curing them.

And if this is the right Way to improve medicinal Knowledge, and to bring it to a

State of greater Perfection, as it appears to be, let every judicious Phyſician, who has ſuitable Abilities, do his Part, where he ſees the *Art* is the moſt deficient, and wants the moſt Improvement, whenever he has a Caſe, and an Opportunity of improving it, let him do it by the above-mentioned Means; ſo that it may be brought to be a real *medical Science*, founded on *ſcientifick Principles*, in all its Branches, as it is now only ſo in ſome of them.

However we cannot but conclude, that if all the Phyſicians, who lived ſince Sir *Iſaac* publiſhed *his Philoſophical Principles*, or all who underſtood them, ſince they were introduced into the medical Art, and *his* Method of Reaſoning; or all thoſe who have endeavoured to introduce them into their *Theory of Medicine*, had as carefully avoided forming *Hypotheſes*, and Reaſoning from ſuppoſititious and imaginary *Data*, as *He* did; and had always truly applied and diligently purſued that mathematical and mechanical Method of Reaſoning, from certainly known *Data* and real *Facts*, diſcovered and known by the before-mentioned anatomical and experimental great Diſcoveries; and had as carefully kept their Reaſonings always conformable to the Motions and Actions of *Nature*, and what *ſhe* really does, as they might have been kept, without liſtening or falling into *Hypotheſes*, no doubt but we ſhould have ſeen the *medical Science* brought to greater Perfection than it is yet arrived to. But alas! Frailty and Imperfection are as inſeparably connected with the Works of Men, as Inſtability is with their Minds, and Diſſolution with their Bodies. And as it is a much eaſier Way to ſit in their Libraries, and form *Hypotheſes*, than it is to diligently obſerve Diſeaſes, and their Progreſs, and carefully to watch *Nature*, and all her Motions; ſo we find, that ſoon after the before-mentioned great anatomical Diſcoveries were made, and this great *Philoſopher* had diſcovered thoſe *Laws of Motion*, and publiſhed *his Philoſophical Principles*, and the Truth of them were known, and they were introduced into the Medical and the other Sciences, ſeveral ingenious and learned Phyſicians took the eaſier Way, and began to form *Hypotheſes*; and ſeveral fine *hypothetical Theories of Medicine*, or of ſome particular Diſeaſes, were invented, where *Hypotheſes* ſhould have no Place, any more than in Philoſophy, as Sir *Iſaac* juſtly obſerves.

And as they reaſoned geometrically, or mathematically, and mechanically, they appeared more like Truth, and therefore were more eaſily impoſed upon, and more readily received by many, as being true; becauſe that Method of Reaſoning appears ſo plauſible, and carries ſuch an Air and Appearance of being *true*, that all their Inductions and Concluſions have been too often received for *Truths*; inſomuch that that Method of Reaſoning from imaginary Hypotheſes and fictitious Data, ſoon became much in faſhion in all the Sciences, eſpecially in the Medical. But notwithſtanding that this Method of mechanical Reaſoning may be ever ſo mathematically true, or geometrically juſt, yet if the *Data*, which we reaſon from, are only ſuppoſititious and falſe, the whole Hypotheſis, and all the Inductions from it, muſt be falſe alſo.

And as various Hypotheſes were invented at that time by ſeveral ingenious and learned Phyſicians, which appeared ſo plauſible, and ſo much like Truth, ſeveral of them, eſpecially thoſe which were not founded upon *Nature*, and certainly known Facts, but upon imaginary *Data* [a], led ſome Men of Learning and fine Parts, into various Errors and great Miſtakes. But where they reaſoned from certain *Data*, and known *Facts*, which were obtained by accurate Obſervations on *Diſeaſes* and *Nature*, and what *ſhe* really did [b], and mechanically explained her manner of acting, by and agreeably to thoſe *Laws of Motion*, and perfectly conformable

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[a] See Pitcairn on Digeſtion, &c. Dr. Willis, Bernouilli, Borelli, Keil, Cheney, and ſome others.

[b] Sydenham, Boerhaave, Bellini, Hermannus, Gulielmini, Michaeliotti, Wainwright, Helvetius, Mead, Freind, Hoffman, Winteringham, Hexham, and ſome others ſince.

to the Motions and Actions of *Nature*, and thoſe Effects which ſhe conſtantly produces in the Body, they made ſeveral conſiderable great Improvements in the *Theory*, and ſome in the *Practice of Medicine*; for which all their Succeſſors are greatly obliged to them. But we muſt, for Truth's ſake, ſay, that ſo much of their Writings, as are not founded upon, and conformable to *Nature*, but are founded upon imaginary Hypotheſes, all their Reaſonings and Inductions are only pleaſing Speculations, which have been ſo far from improving the *Theory of Medicine*, that they have led young Phyſicians from obſerving Diſeaſes, and *Nature*, their beſt Guide, and from purſuing thoſe Methods by which they might both have obtained and improved medicinal Knowledge. And the more learned and eminent thoſe Phyſicians were, who ſo fell into the Method of forming ſuch falſe Hypotheſes, the more Hurt they have done, and the more they have hindered the Improvement of medical Knowledge.

Let us therefore endeavour to ſeparate thoſe who have reaſoned truly from real Facts, from the hypothetical Reaſoners, and only adhere to and follow the firſt.

I neither diſpute the Truth of the *Newtonian Philoſophy*, or its *Principles*, but our Application of them in the *Theory of Medicine*; nor do I queſtion, but that if all ſucceeding Phyſicians had applied thoſe Principles as certainly and truly to all the Motions and Actions of the human Body, when and where they could be ſo truly applied, (and had left them to the Diſcovery of future times, when they could not apply them truly,) and had reaſoned as geometrically truly, as Sir *Iſaac Newton* did, and had kept their Reaſonings and Inductions, as conformable to the Motions and Actions of *Nature*, as *he* did to the Motions and Actions of *Matter*, and of the celeſtial Bodies, no doubt but their Inductions and Concluſions would have been as true in the *Theory of Medicine*, as *his* were in the *Theory of Philoſophy* and *Aſtronomy*. Though it may be doubtful whether they can be ſo truly applied to all the Motions and Actions of *Nature* and *Matter* in the Body, as they are ſometimes ſo myſterious and hidden, as they may be to the Motion of *Matter*, or of the celeſtial Bodies, though they are at ſo great a Diſtance from us; yet it is probable, that further Obſervations and Experiments may enable us to apply them truly to many more Motions and Actions in the Body, than they have yet been truly applied to, if we are but ſufficiently diligent and careful in obſerving *Nature* and her Actions, and the Effects which ſhe produces, and as careful not to admit any

Hypotheſes into our Reſearches, and Reaſonings.

It muſt be allowed, that ſeveral of thoſe learned Phyſicians have made ſome conſiderable Improvements in the *Theory of Medicine*; yet we muſt confeſs that no very extraordinary Improvements were made in the *Practice* after Dr. *Sydenham's* time, till we come to that eminent *Profeſſor Boerhaave*. Though ſeveral conſiderable Diſcoveries and Improvements in Anatomy were made by that great Anatomiſt Dr. *Frederick Ruyſch, Profeſſor of Anatomy and Botany* at *Amſterdam*, who diſcovered a curious Mixture of Wax, and ſome other Ingredients, with which he injected and filled the moſt minute ſerous and ſanguiferous Arteries and Veins, and thereby diſcovered many of the ſmalleſt Veſſels in all Parts of the Body, which were never ſeen or known before, and of which he has given us many curious anatomical Figures, of moſt Parts of the Body [c], eſpecially of the minuteſt Veſſels, where the different Secretions and the other Functions of Life are performed. Alſo *John Baptiſt Morgagni*, Profeſſor of Anatomy at *Padua*, about the ſame time, made ſeveral other new Diſcoveries, of ſome other Parts of the Body, of which he has given us accurate Deſcriptions and curious Figures [d]; and to whom we may add the no leſs eminent Anatomiſt *B. Sig. Albinus, Profeſſor of Anatomy*, now *Profeſſor of Phyſick* in the *Univerſity of Leyden*: Theſe three eminent *Profeſſors* ſeem to have carried their Diſcoveries, and the anatomical Art to great Perfection, though it is probable that they may be yet carried further.

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[c] Vide Ruyſchii Opera in Vol. 4. in 4to.

[d] Vide Adverſaria Anatom. in 4to.

Cotemporary with Sir ISAAC NEWTON, and theſe other eminent Men, lived the great *Profeſſor* BOERHAAVE, who was no leſs eminent in the *Profeſſion of Phyſick*, than Sir *Iſaac* was in *Philoſophy*.

He was an Honour to his Country, an Ornament to the Profeſſion, and a Bleſſing to Mankind, as he was endowed with all the neceſſary Qualifications for making great Improvements in the *medical Science*; and accordingly *he* applied them with indefatigable Induſtry, to improve medicinal Knowledge for the Good of all Mankind.

He was born in the Village of *Voorhout*, two Miles from the City of *Leyden*, A. D. 1668. With great Application he made himſelf Maſter of moſt of the Oriental, the Learned, and moſt of the modern *European* Languages; and was an able *Geometrician* and *Mathematician* when he was young: He was perfectly well acquainted with the Works of *Hippocrates*, and all the *Greek* and *Arabian Phyſicians*, and with all the uſeful *Works* of all the *Moderns*, and particularly with all their anatomical Diſcoveries. *Hippocrates*, and *Sydenham*, were his greateſt Favourites in regard to Practice, whoſe judicious Obſervations, and their great Probity, he very much admired and imitated. He was the greateſt *Chemiſt*, and *Botaniſt* of that *Age*, and perfectly well verſed in every Branch of the *Materia Medica*, a great Mathematician, a ſound Philoſopher, and well verſed in all the Sciences: And to all theſe great Qualifications and Acquiſitions we muſt add, that he was bleſſed with the greateſt Penetration, the ſtrongeſt Memory, and the ſoundeſt Judgment; all which he applied with indefatigable Induſtry, to the Improvement of medical Knowledge, and the Advancement of that *Science*. But it requires a more able Pen to draw the true Portrait of ſo great a *Man*; therefore I will only add, that with all theſe great Endowments, *he was an honeſt, humble, good, and great Man:* And we may truly ſay without Vanity, or exceeding the Bounds of *Truth*, he was the ableſt and *greateſt Phyſician* that any Age has produced ſince the great *Hippocrates*; and that HIPPOCRATES and BOERHAAVE were the two greateſt *Phyſicians* that ever adorned the *Profeſſion*, or the World ever produced.

With theſe great Abilities and this great Fund of Knowledge, he applied himſelf with indefatigable Induſtry, to the Improvement of medical Knowledge, and the Advancement of that ancient *Science*. And after making many ingenious and accurate Obſervations upon Diſeaſes, he ſpent much Labour in collecting every uſeful Obſervation, Experiment, and every Diſcovery, and Improvement, which all preceding *Phyſicians*, from *Hippocrates* to that time, had made, that could be any way uſeful to that Purpoſe.

And as the great Sir *Iſaac Newton* had diſcovered the *Laws of Motion of Matter*, and formed a *new* and *true Syſtem of Philoſophy*, a little before this, the Truth and Uſe of which, in the *medical Art*, he clearly ſaw; and as this Philoſophy had been introduced into the Medical and all the other Sciences, by ſeveral learned and ingenious Phyſicians, who lived a little before, or were Cotemporaries with *him*[e]; and as ſeveral of them had publiſhed ſome ingenious *Theories* of ſome Diſeaſes, and had inveſtigated and explained the Cauſes and Manner of Production of ſome Diſeaſes, as well as the Methods of curing them; and alſo had accounted for the Motions and Actions of ſeveral Parts of the Body, by the *Principles* of that *Phiſico-Mechanical Philoſophy*. And ſome others had invented ſome plauſible fine *Hypotheſes* and ingenious Speculations, accompanied with no leſs ingenious Reaſonings, by which they had attempted to inveſtigate both the Cauſes of Diſeaſes, and various other Phænomena of *Nature*, and ſome other Effects and Appearances in the animal Oeconomy, by and agreeably to the Principles of the ſame Philoſophy.

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[e] The learned Bernouilli, Borelli, Bellini, Hermannus, Michaeliotti, Gulielmini, Mead, Freind, and ſome others.

Such of their *Theories* as were founded upon Obſervations and Facts, and were every way agreeable and conformable to *Nature*, *Reaſon*, and *Truth*, he readily received into *his Theory of Phyſick*. But ſuch, or ſuch Parts of them as were only hypothetical, *he* judiciouſly rejected, as only ſerving to lead young Phyſicians from the Purſuit and Knowledge of Truth, into fine Speculations and imaginary Hypotheſes, and hinder them from further improving medical Knowledge.

And in order to *form*, as well as *teach* others, a juſt and complete *true Theory of Phyſick*, and a rational, judicious, and ſucceſsful Method of *Practice*; as alſo to aſſiſt HIS Memory in teaching this *Science*, in a full and perfect Manner, without omiting any thing that was neceſſary for his Auditors to know, HE judiciouſly compoſed thoſe two excellent ſmall Volumes, *his Inſtitutiones Medicæ*, and *his Aphoriſmi de Cognoſcendis et Curandis Morbis*; which he intended for

Texts or Heads to read his Lectures upon: Wherefore he wrote them in ſo very ſhort and compendious a manner, that the full Extent of his Meaning, and what they truly comprehend, is but ſeldom fully and clearly underſtood by thoſe that read them, and have not heard him explain them in his Lectures upon them: Therefore I would recommend reading and attentively comparing them with *his Lectures* on them, taken down in Short-hand, and publiſhed ſince his Death; thoſe on the *Inſtitutions,* or *Theory,* by the learned Dr. *Haller*; on the *Aphoriſms,* or *Practice,* by the learned *Baron Van Swieten,* in 4to; and on the Diſeaſes of the Nerves by Dr. *J. Van Eems* at *Leyden.*

Theſe two ſmall Volumes comprehend the moſt rational, perfect, and *true Theory of Phyſick,* and moſt judicious, complete, and moſt ſucceſsful *Method of Practice* that has ever yet been publiſhed in any Language, or in any Age.

In *his Lectures* on the *Inſtitutions,* or the *Theory of Phyſick, he* gave *his* Auditors an accurate and true Deſcription of the Structure, Uſe, Action, and Office of all the different Parts of the human Body; and explained to them how all their various Actions and Offices, and all the Functions of Life were performed, agreeably to the Laws of Circulation of the Fluids, the Actions of *Nature* in the animal Oeçonomy, and the

Laws of Motion of Matter: And then explained and deſcribed how thoſe Actions, Offices, and Uſes of thoſe various Parts, and their Functions of Life, were or might be impaired, retarded, too much increaſed, or diminiſhed, or obſtructed, in part, or totally, and ſo be deſtroyed; either by the Influence and Effects of the various Changes of the Air, and the different Seaſons of the Year and the Weather; or by the Means of infectious and contagious Miaſmata; by ſlow or more active Poiſons, or by other Accidents, as Wounds, Contuſions, and various other internal or external Cauſes.

He then explained and demonſtrated how all thoſe various Cauſes acted on the Body, agreeably to the *Laws of Motion,* and the Circulation of the Blood, ſo as to produce ſuch a Statein the Fluids and Solids, that all the different and peculiar Symptoms, which attended each of thoſe different Diſeaſes, muſt neceſſarily follow, according to the Laws of Motion, and Circulation of the Fluids.

He not only thus accurately deſcribed all the various Parts of the human Body, and their Uſes, and the Diſeaſes which affect each Part, but *he* referred his Audience to thoſe *anatomical Authors,* who had the moſt accurately deſcribed and delineated each of thoſe Parts of the Body; and alſo to thoſe *learned Authors,* who had deſcribed the Diſeaſes of thoſe Parts moſt truly; and ſhewed wherein they were right, and with great Modeſty and Deference wherein they were miſtaken, if any Author chanced to be ſo.

Thus *he* deſcribed all the Diſeaſes which the human Body is ſubject to, with all their different *Cauſes*, and the Manner of their being produced, with each of their peculiar Symptoms, agreeably to the Laws of *Nature*, and her Manner of acting, as founded upon accurate Obſervations and Facts, (and not upon imaginary Hypotheſes) but agreeably to *Reaſon*, *Nature*, and *Truth*. Thus *he* performed and finiſhed thoſe his admirable Courſe of *Lectures* on the *Theory of Medicine* in each Year.

And having thus given his Audience a *true Theory of Diſeaſes*, with all their Symptoms, as they really appear, agreeable to *Nature* and *Fact*, ſo that they might certainly know them from each other; *he* proceeded in the ſame manner, in *his Lectures* on *his Aphoriſms*, or the *Practice of Phyſick*; and from the ſame Fund of Knowledge which *He* had collected from all the Obſervations in the Works of *Hippocrates*, and all the other ancient and modern Phyſicians, down to Dr. *Sydenham*'s and *his* own time, joined to his own accurate Obſervations: He compoſed *his Aphoriſms*, and gave his *Lectures* upon them; in which *he* clearly deſcribed each Diſeaſe again, with all its peculiar diagnoſtick, and pathognomonick Symptoms, and explained how each of them were produced, from their peculiar procatarctic Cauſes, in that regular Order and Succeſſion in which they come on, and ſucceed each other, and how they proceed throughout each different Diſeaſe; and carefully remarked and diſtinguiſhed which of thoſe Symptoms were good, and denoted the Recovery of the Patients, and which were bad, and portended their Death; and then explained and ſhewed the Reaſons why they did ſo; firſt by demonſtrating how thoſe bad Symptoms tended either to increaſe the Inflammation, and the Viſcidity and Immeability of the Fluids, and ſo to increaſe the Number of the Obſtructions, and conſequently the Violence of the Diſeaſe, and all its Symptoms; or how the morbid Matter and the Humours tended to the *vital Parts* (ſo called becauſe their Action is immediately neceſſary to the Continuation of Life), either from too violent a Motion of, or from a Deficiency of the *Vis Vitæ* and Motion of the Fluids, whereby the Diſeaſe is rendered either more dangerous, or certainly mortal. And on the contrary, he ſhewed us why thoſe good Symptoms portended the Recovery of the Sick, and explained how they tended to carry off the Diſeaſe, by ſhewing that the Violence of the Diſeaſe, or the Fever and its Symptoms, were neither too great and violent; nor yet *Nature* ſunk too low, or too weak to carry on the Work of Concoction and Expulſion of the morbid Matter; and explained how *Nature* or the *Vis Vitæ* acted and proceeded, in effecting that ſalutiferous Work. And then ſhewed us how we ſhould aſſiſt *Nature* to remove the Cauſe of the bad Symptoms; and explained to us how it was to be effected, when it was in the Power of the *Art*, and when it was not: He alſo ſhewed and explained how *Nature* tended, and endeavoured to carry the Diſeaſe and its Cauſe off, by ſome critical Evacuation; and that *Nature* indicated by ſuch Symptoms to the Phyſician, how he ſhould aſſiſt *her* to carry the morbid Matter and the Diſeaſe off, by that critical Evacuation which *ſhe* indicated, whether by Sweat, Urine, Stool, or ſome other Excretion. Or if a *new epidemical Fever* appears, which proceeds from a different Cauſe, that produces different Symptoms, he adviſed us to endeavour to keep the Fever in a moderate State, neither too high nor too low, and carefully obſerve its Symptoms and Progreſs, its Declenſion, and by what critical Evacuation it is carried off, as Dr. *Sydenham* did, and adviſes others to do: By which Method we may obſerve what *Nature* does, or indicates to be done, and ſo learn of *her* how we ſhould aſſiſt her to carry off ſuch a Fever, in that Manner which *ſhe* does, when *ſhe* acts in the moſt ſalutiferous Manner; and how to aſſiſt *her* when ſhe fails to produce thoſe good Effects.

Thus *he* ſhewed us how abſolutely neceſſary it is for every Phyſician, to diligently obſerve and carefully watch the Motions and Indications of *Nature*, and to take great Care that we never obſtruct, or in the leaſt hinder, but always aſſiſt *her* to carry off the Diſeaſe and its Cauſe, by ſuch Ways and Evacuations as ſhe indicates, when and where it can be ſafely done.

And that we ſhould thus *obſerve*, *follow*, and *aſſiſt Nature* in the Cure of all epidemical, ſporadic, contagious, malignant, and peſtilential Fevers, when and where ſhe can be ſo aſſiſted by the Art; and always to remember the *Scito, Tute, et Jucunde* of CELSUS, and come as near up to it as we poſſibly can. And when we find by the Height of the Fever, the Pain, the Strength, Fulneſs, and Hardneſs of the Pulſe, and other Symptoms, that the Fever is too great and violent, for *Nature* to carry on the Work of Concoction and Expulſion of the morbid Matter regularly by a *Criſis*, how we ſhould moderate the Fever, and its Symptoms, by Bleeding, or ſuch Evacuations as ſhe indicates, with cooling antiphlogiſtick Medicines and a ſuitable Diet.

And on the contrary, when we find that *Nature* is ſunk too low, and the *Vis Vitæ* is too weak to carry on that ſalutiferous Work of Concoction and Expulſion of the morbid Matter, he ſhewed us when and how we ſhould aſſiſt *her*, by giving gentle cardiac Medicines, and a more nouriſhing and ſtrengthening cordial Diet; (very ſeldom by the Uſe of Veſicatories, and hot cordial Medicines, and theſe only when they are indicated, as they generally heat and inflame too much, and are too much in faſhion, and too often uſed); ſo that the Fever may be raiſed to and kept in ſuch a moderate Degree, as is ſuitable to aſſiſt *Nature* to concoct the morbid Matter, and then carry it and the Fever effectually off, by a perfect and complete critical Evacuation.

Thus *he* taught the Students under his Tuition the *medical Art*, and how to cure Diſeaſes, agreeably to the Directions and Dictates of *Nature* and *Reaſon*, by carefully obſerving *Diſeaſes* and *Nature*, and what *ſhe* did, and *reaſoning juſtly and truly* from thence, ſo as to diſcover and find a rational, judicious, and ſucceſsful Method of curing them, agreeably to the Laws of *Nature* and *her* manner of acting, and not in, or after an *empirical Manner*.

He alſo gave us the firſt rational and *true Theory of inflammatory Diſeaſes*, and the rational and right Method of curing them;

and firſt accurately diſtinguiſhed and deſcribed the true Symptoms of all thoſe Diſeaſes which are ſolely and truly Inflammatory, and clearly diſtinguiſhed them by their pathognomonic Symptoms, from thoſe Diſeaſes which are not Inflammatory; ſuch as the true *inflammatory Quincy, Rheumatiſm, Pleuriſy, Peripneumony, a Paraphrenitis, Phrenitis, Nephritis, Hepatitis; an Inflammation of the Stomach, Inteſtines, Peritoneum, the Pelvis, the Spleen, the Meſentery,* or of any other Part of the Body; and alſo accurately deſcribed their good and bad Symptoms; and firſt taught us the true rational, judicious, and moſt ſucceſsful Methods of treating and curing them.

It is well known that Bleeding had been preſcribed and uſed in ſeveral of theſe Diſeaſes, by moſt Phyſicians, almoſt in all Ages; (except by the enthuſiaſtick *Chemiſts*, and their Followers,) and Dr. *Sydenham* had not only preſcribed Bleeding more liberally, in ſome of thoſe Diſeaſes, than moſt of his Predeceſſors, or any of his Cotemporaries did, but he alſo introduced the cooling Regimen, and thereby improved the Method of curing them. But the learned *Boerhaave* gave us not only a *true Theory*, and the rational true Knowledge of their Cauſe, Manner of Production, their Progreſs, Tendency, and Conſequences, but the moſt rational and *true Methods* of treating and curing them,

induĉted

inducted from thence; but he alſo tells us how to diſtinguiſh them from other Diſeaſes, which ſeize and affect the ſame Parts with Pain, *&c.* and appear otherwiſe like them, but are not truly inflammatory; (a Diſtinction which is too often neglected, even at this time); he alſo carefully diſtinguiſhed all the good and bad Symptoms, which attend thoſe different Diſeaſes, and ſhewed how each of them ſhould be treated; when we ſhould bleed liberally, when more cautiouſly and ſparingly, and at what times of the Diſeaſe, and what Symptoms truly indicated thoſe Evacuations. And he alſo adviſed and uſed, a more liberal Uſe of antiphlogiſtick Medicines, and a cooling, diluting, attenuating Regimen; as well as relaxing antiphlogiſtick Fomentations, and other topical Applications, in thoſe Diſeaſes which were truly inflammatory; and gave us the moſt rational and judicious Reaſons for *his* ſo doing, and ſo taught us a ſucceſsful Method of treating and curing all thoſe Diſeaſes.

He not only made theſe Improvements in the Methods of treating and curing epidemical and inflammatory Diſeaſes, but he formed and has given us the moſt *rational* and *true Theory* of all other *Diſeaſes*, both acute and chronical; not founded upon Hypotheſes, but upon accurate Obſervations made upon Diſeaſes and their Symptoms,

toms, and upon *Nature* and her Actions; which he carried on and improved by juſt mechanical inductive Reaſoning, always agreeable to the Motions and Actions of *Nature*, and the *Laws* of the *Circulation of our Fluids*, and the *Laws of Motion of Matter*; and from thence, and conformably to that *Theory*, by the ſame Method of true mechanical inductive Reaſoning, always conformable to the Motions, Actions, and Indications of Nature, he formed the moſt judicious, rational, and juſt, as well as the moſt ſucceſsful Methods of treating and curing all thoſe Diſeaſes, which has ever yet appeared: The Truth of which *Theory* and *Practice* he always demonſtrated by clear Reaſons, and confirmed them by ſeveral accurate Obſervations, which he had made himſelf upon each of thoſe Diſeaſes, as well as by the no leſs accurate Obſervations which *he* took from the great *Hippocrates*, Dr. *Sydenham*, and ſeveral other learned Phyſicians; the Succeſs of which *Practice* he generally further confirmed, by relating ſeveral acute and dangerous Caſes, which came under his own Inſpection and Care, and gave us *his* Reaſons for his ſo preſcribing and doing what he did, and gave us an Account of the Succeſs of them; and in ſuch Caſes, as he ſaw and predicted, that though ſome Eaſe and preſent Relief might be given, yet the Diſeaſe was beyond the Power of *Art*, and was incurable, and gave *his* Reaſons why it was ſo, and uſually foretold the manner, and generally the time of the Death of ſuch a Patient; and alſo what State the Body would be found in, after Death; (and in thoſe Bodies which were opened in the Hoſpital, as well as in ſeveral others, which he gave us an Account of in *his* Lectures) ſo the Bodies were found in that State which he had truly predicted, that they would be in after Death.

Thus this *learned Profeſſor* and truly *great Phyſician*, with great Labour and Induſtry, and every way adequate *Abilities*, greatly improved medicinal Knowledge, and the *healing Art*, in all its Branches, both in its *Theory* and *Practice*, more than any other Phyſician ever did, from the time of *Hippocrates* to this Day; and probably as much as the ſhort Life of one Man will admit of; and brought the Medical Art much nearer to its being a real *Science*, founded upon *ſcientific Principles*, in moſt of its Branches, than it ever was before. But as the Nature and Frame of the human Body is ſuch, that it muſt at laſt undergo a State of Diſſolution; and all Mankind muſt die; and that moſt Diſeaſes may be ſo great and violent, that neither *Nature* nor the Aſſiſtance of Art, can either reſtore Health, or preſerve Life any longer; therefore, when the Symptoms of any Diſeaſe ſhews it to be *extra*

Artis limites, and incurable, the Phyſician can do no more than predict the Death of the Patient: *Et ex præſagio ſæpe vitetur Calumnia*, becauſe as much Knowledge and Judgment is required to know that a Diſeaſe is incurable, as there is to know how to cure a Diſeaſe, that is curable by the Medical Art.

Altho' this very learned and truly *great Phyſician* has made ſo many Improvements in the Medical *Science*, yet ſo ſhort is the Life of Man, and ſo ſubtile and myſterious are ſome of the Cauſes of Diſeaſes, and the Nature of Things; and ſo difficult are ſome of them to be truly inveſtigated, and clearly diſcovered, (tho' *He* detected many of them;) yet after all the Endeavours and Labours of ſo many great and eminent Phyſicians, we cannot aſſert that the Medical Science is yet arrived to the utmoſt State of Perfection; which accurate Obſervations, ingenious Experiments, and careful true inductive Reaſoning, may poſſibly carry it to: Neither have Men, (even the greateſt Genius's,) yet attained to the utmoſt Extent of Knowledge, that the human Mind is capable of arriving to, by thoſe *Means*, either in this, or in any other *Science*; but that ſome further Diſcoveries, and Improvements may yet be made in any of them; therefore in the *Medical Science*, and probably both in its *Theory* and *Practice*, if we do but take the right Method of proceeding therein. And as the great *Lord Verulam*, and *Sir Iſaac Newton*, have ſhewed us the right Way in Philoſophy; and the great *Hippocrates*, *Harvey*, *Sanctorius*, *Sydenham*, and *Boerhaave*, in the Method of acquiring, and improving Medicinal Knowledge; let us therefore diligently purſue thoſe Methods, ſince we ſee that all the great Diſcoveries, and Improvements, which have been made in the *Medical Art* in all paſt Ages, even from its firſt Riſe to this Day, have all been made by thoſe *Methods*: And let us as carefully avoid forming, or falling into Hypotheſes, and reaſoning from uncertain or imaginary *Data*, which in all Ages have, and ever will lead Men into Errors; and divert them from purſuing true Knowledge, and diſcovering Truth. And if we ſteadfaſtly and diligently purſue the Method of making careful Obſervations, and accurate Experiments; and carry them on, and rightly improve them, by juſt and true mechanical inductive Reaſoning, always conformable to what *Nature* really, (not imaginarily) does, in the Body; it is not doubted, but that our Knowledge of the Cauſes, and the Methods of curing all Diſeaſes, may be yet farther improved; and the Medical *Science* be brought to a State of greater Perfection, than it is yet arrived to: Let us therefore, for the Love of

Knowledge and Truth, endeavour to do ſo.

SECT. IV.

General Remarks on the Improvements, and the Hindrances of its Improvement.

WE have in the preceding Part of this Inquiry, endeavoured in a ſhort Manner, to inquire into the firſt Riſe of the Medical Art; and to diſcover how it was improved, ſo as to bring to be, and eſtabliſh it as an Art. And then, to diſcover by what Methods and Means it has been ſo improved, as to bring Medical Knowledge to that State, which it is now arrived to. Alſo to inquire into, and diſcover all ſuch Methods as at any time have hindered its Improvement, or any way prevented the Progreſs of its improving; which I ſhall now endeavour to place before the Reader, in a ſhort and more clear connected Light, ſo that both thoſe Methods may be clearly ſeen, and that young Phyſicians may hereafter carefully avoid falling into any of thoſe Methods which have any way hindered the Improvement of Medicinal Knowledge; and more diligently purſue thoſe Methods by which it has been, and may be ſtill farther improved; ſo that the Medical *Science* may be yet brought to a State of greater Perfection.

It appears, from what we have collected from thoſe ſhort Hints in Hiſtory, which have been handed down to us, that as the People of the firſt Ages lived in a very temperate manner, they moſt probably had very few Diſeaſes; and when, by any Accident, they had any, they were more ſimple, and mild, wherefore *Nature* more eaſily carried them off; or if they, or any Hurts which they got, gave them any Pain, they applied ſuch Plants, or other Things, as Reaſon dictated to them, till they found ſuch Things as relieved or removed their Pain; and when they found any Thing that cured their Diſeaſe, they carefully preſerved the Remembrance of it, and communicated it to others; and ſo what little Knowledge they ſo obtained, was thus preſerved and communicated down to others by Tradition.

But as Men multiplied, various new Inventions were found out, by their Ingenuity and Experience; and among the reſt that of making Wine, with various other Inventions of Pleaſure, Eaſe, and Luxury: And as theſe were multiplied, Diſeaſes were increaſed, and multiplied alſo; and conſequently new Remedies were ſought for, eſpecially when thoſe which they had before failed in curing thoſe new Diſeaſes, till they found out ſuch as cured or relieved them; and when they chanced to find any ſuch, the Knowledge of them was preſerved and communicated in the ſame manner. And thus medical Knowledge was firſt obtained, preſerved, and propagated, and was very ſlowly improved by Experience only, as they were in thoſe Ages intirely Strangers to, and unacquainted with, the Structure of the human Body, and no leſs ſo with the Cauſes and the Manner of the Production of Diſeaſes, till further Obſervations gave them ſome little Light therein; and as they were unacquainted with theſe, they were as ignorant how to remove thoſe Cauſes, and ſo cure their Diſeaſes, any other way, than as ſimple Experience, (without any Reaſoning from the Cauſes) taught them; ſo that all their Practice in thoſe Ages, was only and truly *Empirical.*

And this *empirical Method of Practice* was continued, and very ſlowly improved, down to the time of the great *Hippocrates*; and even to this time, by ſome who call and may think themſelves great Phyſicians. But that *Father and Prince of Phyſicians Hippocrates*, clearly ſaw the Weakneſs, Inſufficiency, and Danger of that *empirical Practice*; therefore *he* firſt began the Method of carefully obſerving the Riſe, Progreſs, Height, Declenſion, and the Manner by which Diſeaſes were carried off at laſt, and no leſs accurately obſerved all the Symptoms which attended them, in each of thoſe Times, or Stations of the Diſeaſe. And at the ſame time as carefully obſerved the Changes of the Air, Weather, and the Seaſons, and the Alterations that were made, or produced by them, in the then reigning epidemical Diſeaſes; as well as what other Diſeaſes came with, or ſoon after followed thoſe Changes of the Weather; and what Effects they both had upon the human Body.

And by thus carefully obſerving all theſe, and the Effects which they produced, and reaſoning carefully and truly from them, *he* was enabled to diſcover their procatarctic and immediate Cauſes, although the Circulation of the Blood was not then known, which ſhews the prodigious great Penetration he had. Then by carefully obſerving the Motions, Attempts, and Endeavours of *Nature* to carry the Diſeaſe off, and by what *critical Evacuations* ſhe did at the laſt both carry the Diſeaſe, and its Cauſe, intirely off, and ſo reſtore the Sick to Health again.

Thus by carefully obſerving all theſe, *he* both learned to know Diſeaſes, and their Cauſes, how they came on, and how *Nature* cured and carried them off: And it was by a juſt Method of inductive Reaſoning, that *he* both diſcovered their different Cauſes, and how *he* ſhould aſſiſt *Nature* to carry them off, and cure them. And it was thus, and from hence that he learned to know that it was the Duty of the Phyſician always to obſerve and aſſiſt *Nature* to carry off Diſeaſes by ſuch Ways and Evacuations as *ſhe* indicated, when it can be effected. Thus *he* wiſely formed a rational and *true Theory*, and a right and judicious Method of *Practice*, founded upon and conformable to *Nature*, by juſt and accurate *Obſervations* and *true Reaſoning*.

It is well known, that there are ſome Phyſicians who are pleaſed to ſay that *Hippocrates* had no *Theory*; (but it is probable, that the beſt Reaſons they can give for their ſaying ſo, is, that they have not been inſtructed how to reaſon truly in the *Theory*, or that they have none;) but it is very evident that *he* had a *Theory*, and that it was Κάτα *Φυσίν Θ'εωρέων*, *a Theory according to Nature*, which was inducted by Reaſoning truly; as is too evident to be denied, both from *his* general Method of Practice, and from the various true Inductions and Conſequences which *he* has ſo juſtly and judiciouſly drawn, from the many accurate Obſervations which *he* made on the Air, Weather, and the Seaſons, and upon Diſeaſes, and the Actions of *Nature*, as before obſerved; although *he* has not left us ſo many Inſtances, or ſuch frequent Specimens of his Method of Reaſoning, in *his Works*, as ſome other Authors have; yet it is no leſs evident, that *he* had a *Theory*, and did *reaſon*, and that *his* Method of Reaſoning was *juſt*, and his *Theory true*, and conformable to *Nature* and *Facts*; as it clearly appears from all thoſe true Inductions which *he* drew from his Obſervations, and has left us in *his Aphoriſms*, *Coacæ Prænotiones*, *De Morbis Epidemicis*, *De Victus Ratione*, and in ſeveral other Places of *his Works*; which remain as ſo many ſtanding *Truths* to this Day, and ſo many permanent Evidences of *his Reaſoning*, becauſe they could not be ſo deduced, without ſuch Reaſoning, and that Reaſoning is *Theory*.

And this *Theory* and *Practice* of HIPPOCRATES was followed by moſt of the *Greek Phyſicians*, who ſucceeded him in *Greece* for ſeveral Ages after; and was introduced into the Practice at *Rome* about 500 Years after *his* Death, if not ſooner, by that judicious and elegant *Roman* Phyſician CELSUS, who purſued the ſame rational *Theory* and *Practice* there: And if all Phyſicians ſince had diligently purſued the ſame through all Ages, and in all Nations, to this Time, no doubt but medical Knowledge would have been much more improved than it has been; and their departing from thoſe Methods, and falling into that of forming Hypotheſes, has been the greateſt Detriment and Hinderance to its Improvement ever ſince; for it was by thoſe Methods of making ſuch accurate Obſervations, and Reaſoning truly from them, that that great *Father of Phyſick* acquired all that great Fund of Knowledge, which *he* poſſeſſed, and by which *he* ſo much improved the *medical Art*, as we have ſeen before.

But ſuch is the reſtleſs Diſpoſition of the human Mind, which is ſeldom ſatisfied with the Knowledge of Truth, and what is the beſt for us; ſo that the Love of *Novelty* has put many ingenious and learned Men upon inventing *new Syſtems of Philoſophy*, in different Ages; and when theſe Syſtems once became faſhionable, they have been generally introduced into the *Sciences*, and have put Men of Learning and Genius upon forming Hypotheſes, conformable to the Principles of that Philoſophy, whether true or falſe, which was then in vogue, and introducing them into the *Sciences*, eſpecially into the *medical Science*. Hence it is, that we find that moſt of the different Syſtems of Philoſophy, which have been invented in different Ages in *Greece*, have been introduced into the *medical Art*, and various fine Hypotheſes have been formed, agreeable to the Principles of the Philoſophy which happened to be then in faſhion: And hence it is, that we meet with ſuch a Variety of Opinions and Sects, among the ancient *Greek* Phyſicians, as they formed their Hypotheſes, and reaſoned from them, and imaginary *Data,* which had no Foundation on *Nature;* their Inductions and Concluſions were not conformable to *her* manner of acting; and as they had no Exiſtence but in their own Imaginations, they led them into various Errors and Miſtakes, and have been in all Ages the greateſt Hinderance to the Improvement of medical Knowledge; not only as they lead Men into Errors, but as they divert the Thoughts of Phyſicians from purſuing thoſe Methods by which all medicinal Knowledge has been obtained, and by which it only can be further truly improved, and brought to a State of greater Perfection.

The *Hippocratick Theory* and *Practice* was generally followed, till the noted *Aſclepiades* firſt ſet upon forming imaginary Hypotheſes, according to the Principles of the *Epicurean* or *Corpuſcularean Philoſophy,* which was then much in faſhion at *Rome;* but as his Hypotheſes, and his philoſophical Method of Reaſoning, were neither conſiſtent with the Operations of *Nature,* nor with the Doctrine and Method of Practice of *Hippocrates,* which was ſtill in great Eſteem with the more Judicious, his Theory and all its Hypotheſes, as well as his Method of Practice, were generally rejected by them, and were ſo ſhort lived, that they died with himſelf.

Soon after him, his Scholar *Themiſon* ſet up for a Reformer, or rather an Innovator, in the medical Art; and not only rejected his Maſter's hypothetical Syſtem, but all philoſophical Reaſoning, and all *Theory* whatever, (and we may add almoſt all Reaſon alſo) which he carried further than the Empiricks did, as they admitted of a little Reaſoning, in regard to the Similitude of Caſes, as alſo did moſt of the *Methodiſts*, though they received him and his Writings into their *Sect*; but as his Syſtem, if it may be called one, or his Method, neither did, nor could make any Improvements in medical Knowledge, it was alſo rejected by all but the *Methodiſts*.

And not long after him came that fine ſubtile Genius *Galen*, who being a Man of great Learning, and fine Parts, and a great Admirer of *Ariſtotle* and his ſubtile *Peripatetic Philoſophy*, he introduced it into his *new Theory of Phyſick* which he invented; and he formed ſeveral fine plauſible Hypotheſes and pleaſing Speculations, which he accompanied with ſuch ſubtile Reaſonings, agreeable to the Principles of that Philoſophy, that they carried ſuch an Air, and an Appearance of Truth with them, that they were generally received by the Learned of that Age, and during many Centuries after, as really being true. So that the *Philoſophy* of *Ariſtotle*, and *Galen*'s *Theory* *of Phyſick*, built upon its Principles, were the only *Philoſophy* and *Theory* in faſhion for ſeveral Ages after. However, there were ſome Phyſicians, who had ſo much Penetration as to ſee the Truth of the *Hippocratick* Doctrine, and the Rectitude of *his Practice*; therefore were too judicious to be led by the ſubtile Reaſoning and plauſible Hypotheſes of *Galen*; they therefore ſtill adhered to, and followed the former, of which number we muſt reckon *Aretæus Cappadox* and *Celſus*. And *Galen* himſelf was a Man of too great Penetration not to ſee it alſo; therefore in his *Practice* he generally followed the *Hippocratick* Method; but was ſo much in Love with the *Philoſophy* of *Ariſtotle*, that he not only endeavoured to explain many Paſſages in the Writings of *Hippocrates*, according to, and by the Aſſiſtance of the Principles of that Philoſophy, by which means he ſometimes explained them quite away, into an unintelligible Miſt; but he alſo formed his own *Theory of Phyſick* intirely conformable to them; therefore he was obliged to ſupport it, by his minute Diviſions of his Temperaments, Elements, cardinal Qualities, and occult Faculties, and his ſubtile Diviſions of the Humours of the Body, and to ſupport the whole by his no leſs ſubtile Reaſoning, conformable to the Principles of that Philoſophy, which was then ſo much in faſhion; and thereby made it appear ſo much like Truth, that his *Theory* was afterwards univerſally received, and adhered to, as being true, by Phyſicians in general, not only at *Rome*, and in *Italy*, but all over *Europe*, where they had any Learning, as we ſhall ſee afterwards: And they were carried about 500 Years after into *Arabia* and the *Eaſt*, where they were held in ſuch great Eſteem, that the *Philoſophy of Ariſtotle*, and the *Theory of Phyſick of Galen*, were the only Philoſophy and Theory that were admitted as true, both in the *Eaſt* and in *Europe*, where any Sparks of Learning yet remained, which indeed was very little any where, as it had been ſo ſuppreſſed and baniſhed into the *Eaſt* by the *Popes*, and their *Prieſts* and *Monks*; till at laſt theſe had little more Learning than the Laity, who had, or were allowed none, but what little they got privately, or by Stealth.

And this State of illiterate Ignorance continued all over *Europe*, whilſt Learning revived and flouriſhed under the Mohamedan *Chalifs* in the *Eaſt*, during the Space of 5 or 600 Years; and then it began to revive a little at *Salernum*, and in *Spain*, among the *Arabians* there, as we have obſerved in the firſt Part of this Treatiſe.

As the *Arabians* received their *Philoſophy* from *Ariſtotle*, and their *Theory of Phyſick* from *Galen,* ſo they continued to adhere to and follow them in both, without making any Improvements, or new Diſcoveries in either of them. But although they made no Improvements in the *Theory of Medicine,* yet they made ſeveral great Improvements both in the *Practice,* and in the *Materia Medica.* It was the *Arabian* Phyſicians that gave us the firſt Account and Deſcription of the *Small-pox* and the *Meaſles,* their different Sorts, their good and bad Symptoms, and the Method of treating and curing them; and of the *Nervus (vel Vena) Medinenſis,* now called the *Guinea-Worm,* and its Cure; and a true Account and Deſcription of the true *Arabian Leproſy,* and the two Kinds of it; as alſo of that Kind of *Leproſy,* now called the *Yaws,* which is a very different Diſeaſe from both the other, and moſt probably is the *Leproſy* of the *Jews;* with their Method of curing it.

It is true moſt of the *Greek* Phyſicians have mentioned the true *Lepra Arabum,* and *Aretæus Cappadox* [a] has deſcribed it in a perfect and pictureſque manner, as he does all the Diſeaſes that he treats on; and *Ætius* deſcribes it very well [b], as he lived at *Amida* in *Meſopotamia,* where it is much more frequent than it is in *Greece:* All the *Greek* Phyſicians call the *true Lepra Ara-*

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[a] Aretæi Cap. Oper. Cap. 13. p. 67. et p. 134.

[b] Ætii Tetrabiblos, L. 13.

bum, by ſome miſtake, the Ἐλέφαντία, or Ἐλέφαντίασις; but the true *Elephantiaſis* of the *Arabians* is a very different Diſeaſe, both in its Cauſe, and the Manner of its Coming, its Appearance, and in all Reſpects; and is very well deſcribed by *Rhazis* [c] and *Avicenna* [d].

The *Arabian Phyſicians* have not only given us a true Account of theſe new Diſeaſes, which were all unknown to the *Greeks*, except the *Lepra Arabum*, called by them the *Elephantiaſis*, as they probably did but very ſeldom ſee it, and as probably never had ſeen the true *Elephantiaſis* of the *Arabians*: and they alſo gave us the Method of treating and curing them, which was a conſiderable great Improvement in the medical Art: And they likewiſe greatly improved the *Materia Medica*, as they firſt diſcovered and introduced the Uſe of the *Euoproticks*, and all the cooling antiphlogiſtick Purgatives; and alſo Muſke, Camphor, and moſt of the beſt Aromaticks; as well as ſome of the beſt antiphlogiſtick Medicines, and the Uſe of the cooling Regimen, which are of the greateſt Service in the Cure of moſt inflammatory Diſeaſes, eſpecially Fevers with that Diatheſis. They alſo moderated, and conſiderably leſſened the Doſes of moſt of the *Draſtick* and ſtronger *Catharticks*, preſcribed by the *Greek Phyſicians*, often in very large Doſes, much larger than we dare, or can give with Safety now, in many Caſes; but the *Arabians* reduced them to ſafe and proper Doſes.

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[c] Rhazis Continens, Tr. 2. C. 26.

[d] Avicen. Canon. Medicin. L. 3. Fen. 21. Tr. 1. p. 967. ed Venet. apud Junta.

These are all great Improvements in the medical Art; but what is ſtill greater, the *Arabians* firſt introduced the Chemical Art into that of the Medical; and firſt invented the Art of diſtilling Waters, and Spirits, Oils, and *ſubliming Mercury*, and making ſome other Preparations from it; though they chiefly uſed it, and all the Preparations from it, externally, in Ointments or Lotions. They firſt invented the *Alembeck*, and ſeveral other chemical Veſſels and Inſtruments, from whence the ſucceeding *Chémiſts* have taken theirs, although they have greatly improved them ſince, as well as invented a great Variety of *Chemical Preparations*, and have no leſs improved their medicinal Uſes, and the manner of adminiſtring them; yet the *Arabians* firſt taught us the Method of preparing them, and ſeveral other chemical Medicines, not only from thoſe *Semi-metals, Mercury*, and *Antimony*, but from ſeveral Metals, Parts of Animals, and various Vegetables, whereby the *Materia Medica* was ſo much improved and augmented, that they now make the better half of it; and many of them, by the Improvements which the modern Chemiſts have made in their manner of preparing them, and the Phyſicians in applying them, are found to be the moſt efficacious Medecines that we now have, in curing ſeveral of the moſt obſtinate Diſeaſes. So that although the *Arabians* did not make any new Diſcoveries in *Anatomy*, or Improvements in the *Theory of Medicine*, but chiefly followed and adhered to the *Anatomy* and *Theory of Galen*, as all the *European Phyſicians* then did, and for ſeveral hundred Years after; yet they not only made all theſe great Improvements in the *Practice*, but in Surgery alſo: They have firſt clearly deſcribed a *Spina Ventoſa*; and are the firſt that either mention or practiſed *cutting* for the *Stone* in the *Kidneys*; an Operation, which both *Serapion* [a] and *Avicenna* [b] ſay was practiſed in their Country, by ſome Perſons, though both of them looked on it as a dangerous Operation, as it certainly is; ſo that few Surgeons have attempted it ſince them; the only two that we read of ſince, was one in *France*, mentioned by *Mezeray* [c], and Conſul *Hobſon* [d], who was cut by the eminent *Dominico Marchetti*, a Phyſician at *Padua*; and both of them lived and enjoyed Health ſeveral Years after.

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[a] Serap. Tract. 4. C. 22.

[b] Canon. Med. p. 361. Ed. apud Junt. Venet.

[c] Hiſt. of France, p.

[d] Philoſ. Tranſact. Abridg. Vol. 3. p. 188.

Whatever ſome Perſons may think or ſay of the *Arabians*, they more zealouſly cultivated, encouraged, and really had more Learning amongſt them at that time, than was in any other Nation; for it was greatly declined in *Greece*, and the *Grecian* Empire, and almoſt entirely extinguiſhed in *Italy*, and the other Parts of *Europe*, by Superſtition and Prieſt-craft, as before obſerved[e]; ſo that the *Arabians* may be ſaid to have been the Preſervers of Learning, when it was overwhelmed by that Deluge of Ignorance in *Europe*; and were the firſt Introducers of it into *Europe* again: And they had many learned Men amongſt them; *Mohamed Rhazis* was a learned Phyſician, and well verſed in ſeveral Sciences; he wrote 12 Books in Chemiſtry[f], and ſeveral in Phyſick and Philoſophy; and is ſaid by Judges to have written them in pure *Arabick*; and *Avicenna* was a learned Man, and a great Philoſopher, and one of a very ſubtile Genius, not inferior to *Galen*, in either, and is ſaid to have written as pure and elegant *Arabick*, as *Cicero* did *Latin*, or *Ariſtotle* and *Demoſthenes* *Greek*: But the low barbarous *Latin*, in which we now have them, as they were tranſlated by the *European* Phyſicians afterwards, in the Ages of Ignorance, renders them diſagreeable to the polite Scholar, and may be one, if not the chief Reaſon, why they are ſo little eſteemed and read; or rather, ſo much contemned. After the *Arabians* had conquered a great Part of *Spain*, and were peaceably ſettled there, in the 8th Century [g], till it was retaken by the *Franks* in the 13th Century [h]; they founded Schools, and brought *Learning* and the *Sciences* with them from *Arabia*, *Ægypt*, and the *Eaſt*, and taught them there, eſpecially *Philoſophy*, *Phyſick*, and the *Chemical Art*, in thoſe Schools. Soon after which, Learning began to ſpread a little into ſome other Parts of *Europe*, and a School was eſtabliſhed at *Salernum* in *Italy*, where the Sciences were intended to be taught, eſpecially *Phyſick*; but the Progreſs of Learning was very ſlow, although *Conſtantine Africanus*, who was born at *Carthage*, (and ſome others) travelled into the *Eaſt*, where he learned the *Arabian* and the other *Oriental Languages*, and the *Sciences*, eſpecially *Phyſick*, and brought them to *Salernum*, where he taught the laſt: But notwithſtanding this, and the great Encouragement that Learning had there from *Robert Duke of Normandy*, and the noble Family of the *De Medicis*, *Dukes of Tuſcany*, it made but a very ſlow Progreſs, as it was ſo much diſcouraged by the *Popes*, and hindered by the Arts and Contrivances of the *Monks*, who had ingroſſed the *Practice of Phyſick* to themſelves, for the Sake of the Lucre of it; though moſt of them were very ignorant in that Art, and very illiterate, as well as the Laity, whom they endeavoured to keep ſo; and ſo they continued ſeveral Ages after, till the *Turks* took *Conſtantinople*, in the Year 1453, when the *Greeks* fled into *Italy*, and brought the Works of the *ancient Greek Phyſicians* and *Philoſophers* with them, as before-mentioned [1]; when Learning began to revive a little, though it was a conſiderable time after this, before it made any material Progreſs, or Figure in *Europe*. But the uſeful and ingenious Art of *Printing* being found out a few Years after, *viz.* about 1466, Books were more eaſily obtained; and as many uſeful Books were ſoon after that printed and publiſhed, and Men learned to read, which ſoon opened their Eyes, and they ſaw the State of Ignorance which they had been kept in, and how they had been impoſed on by the *Monks* and *Clergy*, this brought on the *Reformation*, and Men ſaw they had a Right to think for themſelves, as rational Beings; and in the ſixteenth and ſeventeenth Centuries began to do ſo: This ſoon put them upon inquiring after *Truth*, not only in *Religion*, but in the *Sciences* alſo; and particularly into the *medical Science*, and its ſeveral Branches, *Anatomy*, *Chemiſtry*, and *Botany*; and great Improvements were made in them all. And the great *Lord Verulam*, having detected the Errors and Fallacy of the Principles of the *Ariſtotelian Philoſophy*, and ſhewn Men the Way how to diſcover and know Truth, by the Means of *Obſervation*, *Experiments*, and *true inductive Reaſoning*; and as *Galen*'s *Theory of Phyſick*, which was founded upon the Principles of that Philoſophy, was ſo much in vogue, that it had attached and enſlaved the Minds of *Phyſicians*, almoſt as much as the *Bulls* and *Edicts* of the *Popes* had the Minds of other Men; and as thoſe Principles were diſcovered to be erroneous, it put the more ingenious and learned Phyſicians upon inquiring into the Truth of that *Theory*, and diſcovering its imaginary Hypotheſes and Errors, and they rejected them as ſuch: And this put them upon making Obſervations and Experiments, as *Lord Verulam* had adviſed; and by that means the ingenious Dr. *Harvey* diſcovered the *Circulation of the Blood*; *Sanctorius* the *Inſenſible Perſpiration*; *Euſtachius* and *Veſſalius*, the *Structure of the human Body*; and ſeveral other eminent Phyſicians, and able Anatomiſts, the Structure, Uſe, and Office of the various Parts of it. This alſo put ſeveral ingenious and learned Chemiſts upon making various *Experiments* and *Obſervations*, by which they greatly improved both the *Chemical* and the *Medical Art*, and many very uſeful, and ſeveral of the moſt efficacious Medicines that we now have, were thereby diſcovered; which when they came into the Hands of judicious and able Phyſicians, their Uſes were greatly improved, inſomuch that they then became, and now are, the beſt and moſt efficacious Medicines that we have, in the Cure of ſome of the moſt obſtinate Diſeaſes, which moſt of the Galenical Medicines were found to be ineffectual in curing; as the *Lues Venerea*, which was then a new Diſeaſe; as alſo ſome others, which they effectually cured. And if the chemical Phyſicians had done this, without introducing their pretended, but abſurd chemical and hypothetical *Theory*, (by which ſome of them were for performing the ſame Operations in the human Body, as they did by Fire in their chemical Veſſels; and others by their Alkali's or Acids) and their fiery hot Medicines, and hot Regimen, which they introduced into the Practice of Phyſick, which doubtleſs was injurious or deſtructive to many, they would have done the greateſt Service to Mankind; and as it was, their Diſcoveries were greatly uſeful and beneficial, as the more judicious Phyſicians ſoon ſaw the Prejudice of their hot Regimen, and both it, and the fine philoſophical and hypothetical *Theory* of

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[e] See before, p. 155. [f] Abul. Pharag. Hiſt. Dyn. p. 191.

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[g] Idem, p. 129.

[h] Idem, p. 278.

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[1] See p. 170, before.

Galen were rejected; and ſoon after, both of them were entirely exploded by that honeſt, able, and judicious Phyſician Dr. *Thomas Sydenham*, who introduced the *Hippocratick* Doctrine, and a cooling Regimen, inſtead of them, to the great Benefit of Mankind.

The truly great *Lord Verulam*, having diſcovered the Errors and Inſufficiency of all the Syſtems of Philoſophy, which were diſcovered before *his* time, and invented a ſure Method of diſcovering the Principles of a true Philoſophy, and laid a certain Foundation to build that Philoſophy upon, *viz.* accurate *Obſervations*, judicious *Experiments*, and true *inductive Reaſoning*, tho' *he* had not time to diſcover the Principles, nor to form the Syſtem of that Philoſophy; but Sir *Iſaac Newton* did, by thoſe very means, diſcover that true Syſtem of *Philoſophy* ſome Years after. And it was by the ſame means that the Circulation of the Blood, inſenſible Perſpiration, and all the other great anatomical Diſcoveries were made; all which gave ſuch great new Lights into the animal Oeconomy, when they were properly applied, as greatly improved medical Knowledge every way.

Whilſt the Learned were in Purſuit of diſcovering medical Knowledge by theſe Means, in various Parts of *Europe*; for in theſe two Centuries Learning was much encouraged by ſeveral Princes, and greatly improved by ſeveral learned Men, and ſome who had a more ſprightly Genius began to form Hypotheſes: But about 50 Years[k] after the Diſcovery of the Circulation of the Blood, and the inſenſible Perſpiration, the eminent Dr. *Sydenham* lived. But although he was very well acquainted with the Circulation of the Blood, and the ſeveral Secretions of the Fluids, and all the other anatomical Diſcöveries that were then known, yet he ſeems not to have ſeen the Works of *Sanctorius*, or to have known the *inſenſible Perſpiration*, as he never mentions it, though he often mentions Sweating; although both *Hippocrates* and *Galen* had taken notice of it ſo long before, as already obſerved; but it is moſt probable, that neither *they*, nor *he*, could ſuppoſe that its Quantity was near ſo great as *Sanctorius* found it really to be.

This true *Hippocratick Phyſician* clearly ſaw the great Miſtakes and Errors which the philoſophical Hypotheſes of *Galen* had led Phyſicians into, for the Space of 1400 Years; and the Impropriety and great Prejudices of the *hot Regimen* of the *Chemiſts*, and we may add of the *Galeniſts* alſo; and as clearly ſaw the Reaſonableneſs and Judiciouſneſs of the *Hippocratick Doctrine* and

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[k] Dr. Sydenham was born two Years before Sanctorius died, and three Years before Dr. Harvey died.

Method of obſerving what Changes happen in the Air and Seaſons, and obſerving the manner of the Acceſſion of Diſeaſes, and their Progreſs, Symptoms, and Effects, in order to truly know them, and inveſtigate their Cauſes, and the manner of their being produced; and then by obſerving what *Nature* does, and indicates to be done, and by what Ways ſhe carries thoſe Diſeaſes off, in order to inveſtigate the right Methods of treating and curing them. He therefore wiſely rejected all Hypotheſes out of *his Theory*, and exploded the falſe Reaſonings and *hot Regimen* of both the *Chemiſts* and *Galeniſts* out of his Practice, and judiciouſly purſued the Methods of obſerving the *Seaſons, Diſeaſes*, and *Nature*, as *Hippocrates* did, above two thouſand Years before him: And by that Method, made more uſeful Diſcoveries and Improvements in the *Practice of Phyſick*, and the Method of treating and curing Diſeaſes, than any Phyſician ever did, from the time of *Hippocrates* till then, as appears from what is ſaid before; but may more ſatisfactorily and advantageouſly appear to the young Phyſician, from an attentive Peruſal of all his Works.

It has been ſaid by ſome Phyſicians, that neither *Hippocrates* nor *Sydenham* had any *Theory*; but we have made it appear that *Hippocrates* had, and it will appear as clearly that Dr. *Sydenham* had a *Theory* alſo; and that they were both *true Theories*: Whatever may induce them to ſay ſo, I know not, unleſs it be becauſe he formed no imaginary Hypotheſes, as too many have done ſince; but that he had a *Theory*, and a *true Theory* too, is certain; though *he* neither reaſoned mathematically, nor mechanically, according to the *Newtonian Principles*, which were then neither diſcovered, nor known: Neither has he always favoured us with his Method of Reaſoning, in all the Caſes which he relates, nor in all the Diſeaſes which he deſcribes; yet he has left us ſo much of it, in ſeveral Places, eſpecially when he inveſtigates the Cauſes, both of the epidemical and ſome other Diſeaſes, as makes it evident that he did reaſon both from the Obſervations which he had made upon the Air, the Weather, and on Diſeaſes, their Progreſs, Symptoms, and the manner of their being produced; and by ſo Reaſoning he inveſtigated and diſcovered the Cauſes of thoſe Diſeaſes: And then by obſerving what *Nature* did, and indicated to him to do, and how *ſhe* carried off Diſeaſes, he did by Reaſoning truly diſcover how he ſhould aſſiſt *Nature* to carry off and cure thoſe Diſeaſes. It was by thus obſerving, and by juſt inductive Reaſoning, that he both inveſtigated the Cauſes, and diſcovered the right Method of treating and curing Diſeaſes; and it was by the ſame Methods that he diſcovered the Errors, and Prejudice of the hot Regimen of the *Chemiſts* and *Galeniſts*; and by the ſame Method of Reaſoning he diſcovered the Uſe and Advantage of a cool Regimen, in the Small-pox, Meaſles, and in all inflammatory Fevers. By thus obſerving and reaſoning, he diſcovered which Diſeaſes were Sporadick, which Endemial, Epidemical, or Malignant and Contagious; and by thus Reaſoning, he drew all thoſe judicious Remarks and Cautions which he has left us in his Works, which are found to be no leſs true, than thoſe left us by *Hippocrates* are, to this Day.

And thus inveſtigating the Cauſes, and diſcovering the right Method of treating and curing Diſeaſes by Obſervation, and juſt inductive Reaſoning, is *Theory*, and is theorizing according to *Nature*, *Reaſon*, and *Truth*, and is a *true Theory*. It is true, he met with great Oppoſition, and ſome ungenerous Ill-treatment; from ſome thro' Self-intereſt, Fear, and Covetouſneſs; from others through Pride, Avarice, and Ignorance; although he deſerved the greateſt Rewards and Honours, and they the contrary; they got the Money, and the Name and Fame, for the ſhort Time of Life, which died with them; he the greateſt *Name* and *Fame* ſome Years after his Death, which will continue through all future Ages, in return for the great Service which he has done to all Mankind: And thus it has happened to many great and eminent Men, who have made the greateſt Diſcoveries, and Improvements for the Good of Mankind, tho' they have only had the Satisfaction of having made them, as he had, for the Good of Mankind.

Some Years after thoſe great Diſcoveries were made by Dr. *Harvey*, *Sanctorius*, and the other eminent Anatomiſts, and that they were more generally known; and the great Sir *Iſaac Newton* had diſcovered the true *Laws of Motion of Matter*, and publiſhed *his philoſophical Principles*; all theſe gave ſuch a great and new Light, as ſoon diſcovered a ſure Foundation to build a *new* and *true Theory of Phyſick* upon; and it was hoped that a *Theory of Phyſick*, as *true* as Sir *Iſaac*'s *Theory of Philoſophy* and *Aſtronomy*, would be diſcovered and formed; as the *Newtonian Philoſophy*, and his Method of mathematical, geometrical, and mechanical Reaſoning, were generally received, and introduced into all the *Sciences*, and eſpecially into that of *Phyſick*; though for different Reaſons, and with different Views, by ſome Perſons, becauſe its Principles were *true*, and its Method of Reaſoning *juſt*: Some others, who had only got a ſuperficial ſmattering Knowledge of it, would introduce it into Phyſick, becauſe it was faſhionable and new. The firſt ſeeing what great Diſcoveries Sir *Iſaac* had made in ſome of the other *Sciences*, which appeared to be no leſs myſterious, and difficult to be certainly known, by the Means of Experiments, and the Aſſiſtance of geometrical and mechanical Reaſoning, were induced to believe, that not only the Action of all the external Cauſes, but all the Motions and Actions of *Nature* in the human Body, and all the Cauſes of Health, Life, and even the moſt ſubtile and hidden Cauſes of all Diſeaſes, and the manner of their being produced, and conſequently a certain Method of curing them, might be diſcovered, by the Penetration and Power of the human Mind, aſſiſted by that philoſophical Method of geometrical and mechanical Reaſoning: But alas! when they attempted this, and endeavoured to introduce it into the *Practice of Phyſick*, they ſoon perceived the Poverty and Inability of the human Mind, and their Want of the Knowledge of certain *Data* to reaſon from; and, in proceſs of time, found that thoſe could be only obtained by accurate Obſervations and Experiments; and then ſaw the Difficulty of penetrating to, and truly knowing the ſubtile remote Cauſes of Diſeaſes, and more ſo in diſcovering truly the Actions of *Nature*, and how they both act in producing and in curing Diſeaſes, even with the Aſſiſtance of ſuch Obſervations,

ſervations, and the Impoſſibility of doing it without them, by that Method of mechanical Reaſoning; wherefore they were obliged to apply themſelves to making Obſervations and Experiments, in order to diſcover thoſe true *Data*, to reaſon from, and ſo gradually obtain that more certain Knowledge of the Cauſes of Diſeaſes; and from thence, and by obſerving *Nature*, to obtain the ſureſt Methods of curing them.

But others, who had more ſprightly Geniuſes, though not more Penetration, and Judgment, were unwilling to ſubmit to that tedious and laborious Method of obſerving and inveſtigating the Cauſes, and the Method of curing Diſeaſes from thence, readily fell into the Method of forming imaginary *Data*, and plauſible *Hypotheſes*, and reaſoning from them, as they are much more eaſily formed in the Library, than *true Data* are obtained, by the laborious Method of Obſervation and Experiments; and are more eaſily formed ſo as they have a mind to have them, rather than as they truly are in the Body.

And as Sir *Iſaac* had made ſuch great Diſcoveries, by that Method of philoſophical Reaſoning, they readily concluded that they could account for and explain, not only all the Cauſes of Diſeaſes, but every Symptom, Motion, Action, and Effect produced in the human Body by *Nature*, by the *Laws of Motion of Matter*, according to the Principles of that Philoſophy; therefore they ſet upon forming fine imaginary Hypotheſes, inſtead of finding certain and *true Data* to reaſon from, as *he* did; from whence they produced various fine Speculations, and imaginary plauſible *Theories* of ſeveral Diſeaſes, and introduced them into the *Theory of Phyſick* to its Prejudice. But notwithſtanding that the *Principles* of the *Newtonian Philoſophy* are *true*, and the Method of reaſoning geometrically, mathematically, or mechanically, are as *true*, if carried on right; and is the ſureſt Way to arrive at the Knowledge of *Truth*; if we reaſon from *true Data*, or ſelf-evident *Facts*, our Reaſoning and all our Inductions from them, will be *true* alſo. But if we reaſon from imaginary Hypotheſes, and falſe *Data*, how truly ſoever we may reaſon, our Inductions and Concluſions, muſt be *falſe* alſo.

And as too many of the fine Hypotheſes, and plauſible *Theories*, which were invented and introduced into the *Theory of Medicine*, in the latter End of the laſt and the Beginning of this Century, were founded upon ſuch imaginary *Data*, they have been found to be erroneous and falſe; it has brought ſome Diſcredit upon that Method of mechanical Reaſoning and *Theorizing*, and has cauſed ſome Phyſicians to reject, and even to attempt to ridicule all *Theory in Phyſick*;

but that is running into as great an Extreme on the other hand, and we may juſtly ſay of ſuch, as the *Roman* Poet did, *Incidit in Scyllam qui vult vitare Charybdim.* For the true Cauſe was their Reaſoning from imaginary *Hypotheſes*, and *falſe Data*; whereas if they had as carefully obſerved Diſeaſes, and what Nature did, and how ſhe produced all her Effects, ſo as to have obtained *true Data*, and certain Principles to have reaſoned from; and then had reaſoned right, as ſome others did, no doubt but their *Theories* would have been *true*.

Some others ſeeing the Errors and Miſtakes which ſome of theſe laſt learned *Theoriſts* made, concluded, that Medicinal Knowledge could only be obtained, and the Science improved, by making Obſervations on Diſeaſes, and Experience in curing them; in the Method which the ancient *Empiricks* and the Methodiſts did, without any philoſophical Enquiries into their Cauſes, or mechanical Reaſonings upon them; and ſo revive Empiriciſm, or Methodiſm again.

In which caſe all thoſe great Diſcoveries of *Dr. Harvey*, *Sanctorius*, and all the other great Anatomiſts, and thoſe of the great *Newton*, would be of little or no Service, either in *Practice*, or in improving the *Theory or Practice of Phyſick*, ſince they cannot be improved any other way, but by juſt Reaſoning.

But it is more reaſonable to expect, that the *Medical Art* may be more improved, and brought to a State of greater Perfection, by judiciouſly joining the firſt to the laſt, *viz.* juſt Reaſoning, to accurate Obſervations and Experience; as the learned *Boerhaave* has ſhewed us the Way, and by which *He* has ſo much improved both the *Theory* and the *Practice of Phyſick.* Firſt, by carefully obſerving how all the Motions and Actions of the Body, and all the Functions of Life, are performed in a State of Health. Then, by diligently obſerving the Changes of the Air, Weather, and the Seaſons of the Year, or other Accidents which happen before or at the Time of the Acceſſion of Diſeaſes; how thoſe Changes affect the Body, what Secretions, and Functions of Life are the moſt affected by them, and in what manner. Secondly, by accurately obſerving Diſeaſes, how they come on, with what Symptoms, how they proceed, increaſe, come to their Height, decline; and how, or by what *Criſis*, or critical Diſcharge they go off, or end in Death; what Motions, Actions or Functions of Life, are moſt affected, and how changed or altered in, and by the Diſeaſe. And, Thirdly, by as carefully attending to, and accurately obſerving *Nature*, and what ſhe does, what Secretions or Excretions *ſhe* increaſes, what Motions and Endeavours *ſhe* makes to carry the Diſeaſe off, and by what critical Evacuation *ſhe* does at laſt carry the Diſeaſe and its Cauſe off; or how, and wherein *ſhe* fails, in producing that ſalutiferous Effect. By thus carefully obſerving all theſe, we may diſcover the procatarctic Cauſes of Diſeaſes; and by reaſoning carefully from them, agreeably to the *Laws of Motion of Matter*, and the *Laws of Fire*, and the *Laws of the Circulation of the Blood*, conformably to the Actions of *Nature*, we may diſcover, and truly know the Cauſes, and the Manner of the Production of Diſeaſes. And by the ſame Method of mechanical inductive Reaſoning from them, and obſerving what *Nature* indicates, and really does, and keeping our Reaſoning conformable to them, we may both know when and how to aſſiſt *Nature*, agreeably to her Indications, to carry off the Diſeaſe, and its Cauſe, by giving ſuch Medicines as will gently increaſe thoſe Secretions, and Evacuations, by which ſhe carries the Diſeaſe off at that Time. Thus we may improve *Medicinal Knowledge* both in the *Theory* and *Practice*, and thereby practiſe more ſucceſsfully; if we do but take ſufficient Care to avoid reaſoning from imaginary Hypotheſes and *falſe Data*, and keep our Reaſoning conformably to *Nature*, and what ſhe does. And, Laſtly, endeavour always to confirm the Truth of our Reaſoning, by obſerving that all our Inductions and

and Concluſions, are every way perfectly conformable to what *Nature* really does.

Inaſmuch, as all the Changes and Effects which are produced by Diſeaſes in the human Body, are produced by the Change of Matter and Motion, agreeably to the *Laws of Motion*, and the *Laws of Circulation*: Whether the firſt moving Cauſe proceeds from the Changes of the Air, Weather, and the Seaſons; or from ſome epidemical, infectious, or contagious *Miaſma*; or from any deleterious or poiſonous Mater, taken into the Body; or from whatever Cauſe they may ariſe, after they are received and carried into the Blood, they muſt either ſtimulate and irritate the ſenſible nervous Solids, or coagulate and obſtruct, or elſe attenuate and diſſolve the Fluids; all the Changes which they produce in the Body, muſt be by ſome of theſe, and by the Motions, Actions, and Efforts of *Nature*, according to the *Laws of Motion of Matter*, and of *Fire*, and the *Laws of Circulation* of the *Fluids*, in order to caſt the offending *morbid Matter* out of the Body: Whether it be by ſtimulating and irritating the Coats of the Stomach and Inteſtines, and thereby cauſing *Nature* to exert her contracting Force, and thereby endeavour to diſcharge the irritating Cauſe, or offending *morbid Matter*, upwards by Vomiting, or downwards by Stool: Or when the offending *morbid Matter* is carried into the Blood, it ſtimulates the Heart and Arteries, and cauſes them to contract themſelves more frequently and ſtrongly, and thereby increaſes the Velocity and *Momentum* of the circulating Fluids, in order to caſt that offending Matter out of the Body by ſome of the Excretions, when *ſhe* can effect that; and when ſhe cannot do it ſo ſoon, *ſhe* then endeavours by that increaſed Motion of the Fluids, aſſiſted by the penetrating, dividing, and repulſive Power of the Heat or *Fire*, which is collected by the increaſed Motion and Attrition of the circulating Fluids[a], to comminute and divide, or *concoct* the *morbid Matter*, ſo as to render its conſtituent Particles fit to paſs through ſome of the excretory Veſſels, and ſo be caſt out of the Body by ſome critical Evacuation. In the Production of all which Actions and Effects, it evidently appears, that *Nature* is the principal or chief Agent; therefore the Phyſicians principal Attention and greateſt Care ſhould be diligently to watch, and carefully to obſerve *Nature* and her Motions and Actions, in all *Fevers* eſpecially, as well as in moſt other Diſeaſes.

Having thus briefly explained how *Nature* both produces and cures Diſeaſes, eſpecially *Fevers*, (which I ſhall explain more fully after;) and inaſmuch as *Nature* is the principal *Agent* in producing *Diſeaſes*, and all their Symptoms and Effects, ſo it alſo appears that *ſhe* is the chief Agent in carrying off, and curing *Diſeaſes*; therefore *Nature* ſhould be the principal Guide and chief Director, to every judicious Phyſician therein; (and really is ſo, to every able Phyſician, who knows how to *obſerve* and *reaſon* right upon Diſeaſes, and will be ſo honeſt as to take ſufficient time to do it.) As *ſhe* always endeavours to preſerve Life, and reſtore Health, by carrying off the offending *morbid Matter*, and the *Diſeaſe* with it, by a critical Evacuation of it, either by one Excretion or another. And he who diligently thus obſerves, will ſoon ſee that *Nature* thereby ſhews us the Way we ſhould follow, and how and when we ſhould aſſiſt *her*; for every judicious and honeſt Phyſician is, and ſhould be, the Miniſter and Servant of *Nature*.

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[a] See the Nature, Properties, and Laws of Motion of Fire, demonſtrated by Experiments, Law. 1ſt.

If this be true, as I think it is, and if we ſincerely deſire to increaſe Medicinal Knowledge, and improve the Method of curing Diſeaſes, let us firſt diligently obſerve all the material Changes of the Air, Weather, and the Seaſons of the Year; as they always have either more or leſs Influence on the human Body, and moſt commonly are the Cauſe of the Production of moſt epidemical Diſeaſes. And alſo obſerve what epidemical Diſeaſes either reigned before thoſe Changes, or came with or followed them, and what Effects thoſe Changes of the Air have upon the ſound and well, as well as on the ſick People; what Effects thoſe Changes have upon the preſent or pre-reigning Diſeaſes, and what Symptoms and Changes they produce in them; what Parts of the Body they moſt affect, and what Secretions are the moſt affected, and how they are affected, either by the Changes of the Air, or by the Diſeaſes, with proper Allowances for the Difference of particular Conſtitutions; what Symptoms attend each Diſeaſe, how they and the Fever firſt come on, proceed, and increaſe; come to their Height, decline, come to their *Criſis*, and by what critical Evacuation it goes entirely off; what Symptoms attend each of thoſe States of the Diſeaſe, which of them are pathognomonick, diagnoſtick, and which are anomalous or heterogeneous Symptoms; which are good and predict the Recovery, and which are bad and denote the Death of the Patient; ſo that we may not only certainly know what the Diſeaſe is, but that we may by juſt inductive mechanical Reaſoning, from thoſe Obſervations, Changes and Symptoms, inveſtigate its true Cauſe, and its right Method of Cure, and know how and when to aſſiſt *Nature*, by further obſerving how *ſhe* acts in all thoſe Times and Changes, what *ſhe* endeavours and attempts to do, or thereby indicates to us how and when we ſhould aſſiſt *her* to do as *ſhe* does, when *ſhe* acts in the beſt manner, and produces the moſt ſalutiferous Effects; and that we may know, and be enabled to predict the Recovery, or the Death of the Patient. And if we alſo carefully obſerve, by what Secretion and Evacuation *Nature* has carried the ſame Fever, which is at that time reigning, off, in other Patients, and on what Day of the Diſeaſe; and obſerve whether ſhe indicates and endeavours the carrying it off, in that Patient, by the ſame or by ſome other critical Evacuation, and aſſiſt *her* accordingly; and ſo learn of *Nature*, and from her Indications, both *when* and *how* we ſhould aſſiſt *her*, when and where it can be ſafely done, agreeably to *her* Indications, by giving at that time ſuch Medicines as are known to paſs off by, and to increaſe thoſe Secretions by which *Nature* has carried off that Diſeaſe in others, and indicates in that Patient, and ſo aſſiſt *her* to caſt the *morbid Matter* and the Diſeaſe, entirely out of the Body by a critical Evacuation: As by giving a ſuitable Clyſter, or a gentle Laxative, when it is by Stool; Diureticks, when by Urine; a moderate Sudorifick, which does neither too much heat, nor inflame, when by Sweat; (in which Caſe, a moderate ſmall ſuitable Doſe, or two, of the *Vinum Antimoniale* is probably the beſt;) or by giving ſuitable expectorating Pectorals, when the critical Diſcharge is by Expectoration, *&c.* If they are given a little before, or at the Time of the *Criſis*, and are continued for ſome Hours, or ſometime a Day or two after it, as the Caſe may require; and as *Nature* wants that Aſſiſtance, which in weak Patients *ſhe* often does. But, as it ſometimes happens, that the *morbid Matter* has a Tendency to, or is caſt upon the *Vital Parts*, by which it cannot be evacuated, as on the Brain, Heart, *&c.* which are ſo neceſſary to the Continuation of Life; this Method of Obſervation and juſt Reaſoning teaches us how and when we ſhould divert thoſe Efforts of *Nature* from thoſe Parts, and endeavour to turn them towards thoſe by which the Criſis has, in other Patients in that Diſeaſe, been effectual, and the morbid Matter and the Diſeaſe have been entirely carried off by that critical Diſcharge, by making a Revulſion from the former or vital Parts to the other, either by Bleeding when the Commotion of the Blood and the Violence of the Fever are too great, or by ſome other Evacuation by or near to the other Part; which may be aſſiſted by bathing the Feet, or the Application of Fomentations, Frictions, or Veſicatories, near to that Part by which the critical Diſcharge has been uſually made in that Fever at that time, in others; and by applying Repellents to the Head, or near the other Part, from which the Revulſion is intended to be made, where it can be done; ſo that we may aſſiſt *Nature* to carry off the *morbid Matter* and the Diſeaſe, in the moſt effectual manner, by a complete critical Evacuation: So likewiſe, when it happens either in the Beginning, or farther on in the Diſeaſe, or at any time before the coming on of the *Criſis*, that the Commotion of the Blood and the Heat and Violence of the *Fever* are too great to carry on the Comminution, Concoction, and Expulſion of the *morbid Matter* regularly; the ſame Method of obſerving and reaſoning, will inſtruct us how we ſhould aſſiſt *Nature* to abate that Commotion, and moderate the Heat and Violence of the *Fever*, by Bleeding and a liberal Uſe of Antiphlogiſtic Medicines; and in ſome Caſes, by ſome other cooling Evacuations alſo; (and not increaſe the Fever by ſtimulating, with applying *Bliſters*, as is too often done;) but ſo as to render the Fever ſo moderate and regular, that *Nature* may carry on the ſalutiferous Work of Concoction and Expulſion of the *morbid Matter* effectually.

And, on the contrary, when the Conſtitution and Strength of the Patient is too weak, or where *Nature* is too languid, and the *Vis Vitæ* is ſunk too low, to carry on the Work of Concoction and Expulſion of the *morbid Matter*, by a regular *Criſis*, we ſhall know how to aſſiſt *her* by gentle Cardiacs, Volatiles, Veſicatories, and a more cordial Diet, ſo as to keep the Fever moderate, and neither too high, nor let it ſink too low to carry on that Work, but ſo as to carry on the Concoction of the morbid Matter, and carry off the Fever, by a complete critical Diſcharge of it. This Method is not only agreeable to Reaſon, but is conformable to *Nature* and what ſhe really does, and to the Doctrine of *Hippocrates*, *Sydenham*, and *Boerhaave*.

And although neither *Hippocrates* nor *Sydenham* have favoured us with ſo full an Account of their *Theory*, or their Manner of *Reaſoning* and *Theorizing*, as ſome others have done, yet it is evident from their Inductions, *&c.* that they had a *Theory* which was founded upon the Obſervation of *Diſeaſes*, *Nature*, and *real Facts*; and was inducted from them by juſt *Reaſoning*, and was a *true Theory*. But the learned *Boerhaave* has favoured us with a regular and *rational true Theory and Practice of Phyſick*, which *he* founded upon all the *Obſervations* and great *Diſcoveries* that were made by *Hippocrates*, and all the eminent *Phyſicians* who lived after him, to his own Time, as well as upon his own Obſervations upon

Diſeaſes,

Diſeaſes, *Nature* and *her* Operations, by the means of *true inductive mechanical Reaſoning*, agreeably to the Manner of the great *Lord Verulam*, and the *Philoſophical Principles* of the great *Sir Iſaac Newton*, and conformable to *Nature* and her Motions and Actions, and the Effects which ſhe produces in the human Body; and may truly be ſaid to be the *firſt* complete and *true Theory of Phyſick* the World has ever been favoured with.

From this *Theory*, as well as from all Obſervations and real Facts, it appears that *Nature* is the chief Agent both in producing Fevers and moſt other Diſeaſes, from their procatarctick Cauſes, as well as the chief Agent in curing them: And if ſo, it is not neceſſary to uſe many Arguments, to convince every rational *Phyſician* of the Advantage, and the Neceſſity there is, for diligently obſerving all thoſe Changes of the Air, and all the other remote Cauſes of Diſeaſes, as well as carefully watching all the Motions, Actions, and Effects, which are produced by *Nature* in the Body, in order to know thoſe Diſeaſes, and truly inveſtigate their Cauſes; and as diligently to obſerve, watch, and follow *Nature*, as his chief Guide, in his Method of treating and curing them, that he may be better enabled properly to aſſiſt *her*, agreeably to what *ſhe* indicates and requires, and conformably to *her* Manner of acting; being directed thereto by *Nature*, and a juſt Method of true *mechanical inductive Reaſoning*, from thoſe Obſervations, and the Actions of *Nature*, and always keeping his Reaſoning and Inductions ſtrictly conformable to what ſhe really does.

I am ſenſible that this Method of obſerving *Diſeaſes* and *Nature*, and ſtrictly following and aſſiſting *her*, may probably be objected to by ſome of the Faculty, eſpecially by thoſe who may think it too tedious and laborious a thing, ſo ſtrictly to obſerve Diſeaſes and Nature, and too ſervile a thing to follow and aſſiſt *Nature* in that manner; eſpecially if they are uſed to hurry over their Patients, and are in haſte to grow rich, and cannot ſpare ſo much Time as ſome Caſes may require, to ſtrictly obſerve and follow *her*: And probably there may be ſome, who have not Penetration to obſerve and ſee, the Motions and Actions of Nature; or have not been inſtructed ſufficiently in this Method of *Obſerving* and *Reaſoning*, though well verſed in the other Branches of the Profeſſion, or have not been taught a perfect and true *Theory*, or are not willing to ſubmit to ſuch a laborious Method of Practice: If theſe are not the Cauſes, it will be a difficult thing to find out the true Cauſes, why ſome Phyſicians object to having a *Theory of Phyſick*, as *Themiſon* did at *Rome*, and the *Methodiſt Sect* after him: And there have been ſome *Themiſons*, in all Ages ſince; and I wiſh we could ſay that we have none in our Days, who have affected to deſpiſe and ridicule all *Theory in Phyſick*; the Reaſons for their ſo doing, we will not here inquire further into, becauſe it cannot reflect any Honour or Credit to them.

It is but too true, that there have been many plauſible *Hypotheſes*, formed upon falſe Principles of Philoſophy, and imaginary *Data*, both in *Galen*'s time, and ever ſince; both before the Diſcovery, and Introduction of the *Newtonian Philoſophy* into the *Theory of Phyſick*; but there have been ſeveral very plauſible *Theories*, and ſome fine imaginary *Hypotheſes*, invented ſince, which appeared very plauſible, and ſeemingly rational; but as ſome of them were neither founded upon certain Obſervations, Nature, nor true Facts, but only on ſuppoſititious Hypotheſes, and imaginary *Data*, which had no Exiſtence but in the Imagination of their Authors, they have ſince been found to be falſe; for if the *Data*, from which we reaſon, are falſe, conſequently all the Inductions, which we draw from them, muſt be falſe alſo, though our Reaſoning be geometrically true: And it is from the Want of true *Data*, that ſo many of the fine *Hypotheſes*, which have been invented and introduced into the *Theory* *of Medicine*, not only within this laſt Century paſt, but in all Ages, have proved to be erroneous and falſe. This probably may be one Reaſon why ſome *Phyſicians* rejected all *Theory in Phyſick*; but that is falling into one Error, in order to avoid another.

Since all Diſeaſes, and all the Effects which they produce in the Body, muſt be produced by Matter and Motion, moving according to the *Laws of Motion*, is it not the moſt prudent and rational Method, to inquire what are the firſt moving Cauſes, in the Generation and Production of Diſeaſes? Obſervation then informs us, that the various Changes of the Air, *&c.* produce ſome Diſeaſes; that infectious Miaſma, taken into the Air, and ſo into the Body, produce ſome others, and contagious Diſeaſes by Contact, *&c.* Obſervation alſo informs us, thoſe things which were floating in the Air, and are generated there, from various concurring Cauſes, which may be diſcovered by Obſervation, when they are taken into the Body, offend and irritate it in different Parts, and in different Degrees; that Irritation cauſes *Nature* to exert her *Vis Vitæ*, or Power of moving with Force, in order to caſt that offending Matter out of the Body, in different Ways, as beforementioned; and that increaſed Motion of the Solids and Fluids, produces the Heat and Fever, or the Diſeaſe, which continues till the morbid Matter is caſt out of the Body, or the Patient dies. Theſe may be known by the means of Obſervation, as *Hippocrates* and *Sydenham* did, the one without either knowing the Circulation of the Blood, or the *Laws of Motion*, and the other without knowing the latter. But as the Blood circulates, according to *Hydraulick Laws*, and the *Laws of Motion*, its increaſed Motion, and the Symptoms and Effects produced thereby, may be more clearly accounted for, and explained in a much more ſatisfactory manner, by the Knowledge of the Circulation, and the *Laws of Motion of Matter* and of *Fire*, if they are properly applied.

In like manner, if all the Motions, Actions, and Effects produced by *Nature*, are attentively obſerved, we may know when, and how to aſſiſt *her*, as thoſe two great Phyſicians did; but a Knowledge of the Circulation of the Blood, and the Structure of all the Parts of the Body, and the *Laws of Motion of Matter*, and of *Fire*, will enable us to account for the manner of the Production of thoſe Effects, in a more clear and ſatisfactory manner; as alſo how and when we ſhould aſſiſt *her*; likewiſe to know when we can, and when we cannot aſſiſt *her*: And the Knowledge of all theſe, do greatly aſſiſt us to inveſtigate the Cauſes, and the manner of Production of all Diſeaſes;

eaſes; and conſequently, in the Method of treating and curing them, when their Cauſes are known; if we do but reaſon carefully and truly, and conformably to the Motions and Actions of *Nature* in the Body, as they always have a Tendency to carry the offending morbid Matter out of the Body, and the Diſeaſe off, and to reſtore Health.

And although we cannot always know *a prori*, what *Nature* can or will do, yet by diligently obſerving what *ſhe* does, both in the Production of, and in the Cure of Diſeaſes, we may learn to know what *ſhe* does, and alſo to know when and how we may aſſiſt *her* to carry off and cure them.

And although NATURE does not act as an intelligent Being, yet as an active Principle, implanted in us by our GREAT CREATOR, which perceives when the Body is hurt or injured, ſo that *ſhe* exerts her Power and Force, in order to remove the injuring Cauſe, and always acts in the beſt manner for the Preſervation of Life, and the Reſtoration of Health. But we can only know this, by carefully obſerving what *ſhe* does; ſo difficult is it to deſcribe, and give a clear Definition of *Nature*, that the great *Hippocrates* wiſely called her

The Aggregate of all Things that concur to perfect Health.

And we find, that both *Hippocrates*, *Sydenham*, and *Boerhaave*, and all other eminent *Phyſicians* ſince, have always made *Nature* their Guide, and in all Caſes followed and aſſiſted *her*; and all other Phyſicians ſhould do the ſame.

And as Reaſon is the ſupreme Faculty of the human Mind, and is the Rule by which all Men ſhould govern and direct all their Actions; and if in the common Affairs of Life, certainly in the important one of the Preſervation of Life, and Reſtoration of Health. And as we have no other Way to certainly know Diſeaſes, and their Cauſes, and the manner of their being produced, but by carefully obſerving them, and thoſe Cauſes which produce them, and by Reaſoning from thoſe Cauſes to their Effects; and then by obſerving what *Nature* does, and how ſhe acts in the Cure of Diſeaſes, and by Reaſoning from thoſe Cauſes and Effects, and the Actions of *Nature*, we may know how to aſſiſt *her* to cure Diſeaſes: It is by this Method of obſerving, and true inductive mechanical Reaſoning, that we can truly improve medicinal Knowledge, and the Methods of curing Diſeaſes; and that Reaſoning is *Theory*.

Wherefore we muſt conclude, that all that Affectation of deſpiſing *Theory* in the *medical Art*, muſt either ariſe from their not diſtinguiſhing thoſe erroneous Theories, which are founded upon imaginary Hypotheſes, or falſe Data, from thoſe which are founded on Obſervation, Experience, Nature, and true Facts; or their neglecting to obſerve Diſeaſes, and *Nature*, and what ſhe indicates; or their not being inſtructed in the Method of Reaſoning mechanically, and truly from ſuch Obſervations on Diſeaſes, their Cauſes, and from Nature: Or whatever the Cauſe may be, why thoſe Gentlemen affect to neglect and deſpiſe the *Theory of Medicine*, if there can be any ſuch in this Age; let them ſay what they pleaſe, they muſt form ſome Idea of the Diſeaſe, and its Symptoms, under their Cure, and form ſome Method of treating and curing it, and have ſome Reaſons for their chuſing one Method preferable to another, and for their doing ſo: So far as they do this, they have ſome Sort of a *Theory*, though it be a weak and imperfect one.

Therefore a *Theory*, which is founded upon *Obſervation*, *Nature*, and *true Facts*, and is carried on by true inductive mechanical Reaſoning, will either lead us to the Knowledge of *Truth*, or inſtruct us how to make further Obſervations and Experiments, which will, by the ſame means, lead us to the Knowledge of it; and will not only be more ſatisfactory, but the Practice ſo formed will be more ſucceſsful alſo. For if we have no better Reaſons for preſcribing, or giving ſuch a Medicine in ſuch a Fever, or other Diſeaſe, than our having it from ſuch an Author, or ſuch an eminent Phyſician's Preſcription, though from a *Boerhaave*, or a *Mead*; unleſs we have the ſame Indications, Symptoms, and Reaſons for our preſcribing it, which they had; and therefore, without thoſe Reaſons, give that Medicine to all Patients, in that, or any other Fever, and at any time of the Fever, or whatever Symptoms attend: Such Practice, though we have ſeen it perchance ſucceed, is *Empirical*, in the moſt abject Senſe of that Word, and is no better than having it from a good old Woman, or a Quack; and is, in plain Truth, empirical Practice. Since it is well known to every judicious and able Phyſician, who has a rational and *true Theory*, that *Fevers* differ as much from each other, as they differ from ſome other Diſeaſes, and require as different Methods of Treatment; and that the ſame Fever, in the ſame Patient, requires a very different Method of Treatment, in one time of it, from what it does in another time of it; and that Method, which would be the means of recovering the Sick, in one time of the ſame Fever, would be very injurious, or fatal, in another time of that Fever; and more ſo in different Fevers; and that Method, and thoſe Medicines which will recover and ſave the Life of the Patient, in an inflammatory Fever, would be deſtructive and fatal in a ſlow nervous Fever; and the Method and Medicines, which would recover the Patient in the latter, would be fatal in the former; and ſo in other Fevers, and other Diſeaſes. And as Quacking is now ſo very much in faſhion, what muſt we think of thoſe Gentlemen of Senſe and Education, who in other Concerns of Life reaſon well, and think and act prudently; (for as to the Vulgar it is to no Purpoſe to ſay any thing) yet where the important Concern of Life is at the Stake, give up their Senſe and Reaſon, to the ignorant Pretenſions of Men, who know not one Diſeaſe from another, much leſs their different Cauſes, or the different Times and Symptoms that attend them; and ſuffer themſelves to be impoſed upon by giving *a Pill or a Drop*, to cure all Diſeaſes; or a Paper of Powder to cure all Fevers, or in any time of them; which if they are active Medicines, as moſt of the *antimonial Medicines* are, and are alſo very uncertain in their Operations, muſt frequently produce very bad, if not fatal Effects.

Since there cannot, in the Nature of Things, poſſibly be any one Medicine, how uſeful and efficacious ſoever it may be in ſome particular Caſes, that can be proper and fit in all Caſes, and in all *Fevers*, and much leſs in all Times of any Fever, no more than one Coat can be made to fit all Men; and the one is as abſurd and impoſſible

poſſible as the other; and if any one does pretend they can, they muſt either want Judgment, or Honeſty to acknowledge the contrary. I have no Prejudice againſt any particular Perſons, nor any ſelf-intereſted Views, but the Good of my Country, and of Mankind, in ſaying thus much on this Subject, but againſt Quacking and Quack-medicines.

And as Phyſicians may (not improperly) be ſaid in ſome Caſes to ſit as Judges of Life and Death, where a right Method of Practice may ſave, or a wrong Method deſtroy the Life of the Patient; it is an important and ſolemn Act, wherein nothing leſs than a rational, juſt, and true *Theory of Diſeaſes*, which is founded upon accurate Obſervations, and on *Nature*, and real *Facts*, carried on by true *inductive mechanical Reaſoning*, whoſe Inductions and Concluſions are always conformable to what *Nature* indicates and really does, can be truly ſatisfactory to the conſcientious honeſt Phyſician, and juſtify his Practice, either to himſelf, or to others. For the Life of Man is of too great Importance and Conſequence, to be intruſted upon Suppoſition or Gueſs, or upon the Effects of imaginary Hypotheſes, which too often prove erroneous and falſe; or upon the poſitive Aſſertions of an ignorant vain boaſting *Empirick*.

There alſo have been ſome Phyſicians in various Ages, who have affected to deſpiſe the *Doctrine of Criſis's*, and *critical Days* of *Hippocrates*, and the *Ancients*; and even in our Days there are ſome, who either do not believe, or at leaſt ſpeak very ſlightly on them; and there are others, who though they allow that the *Criſis of Fevers* might happen to come as the *Ancients* have deſcribed them in the warmer Climate of *Greece*; yet will not allow that *Fevers* have any ſuch regular *Criſis's* here in the colder Climate of *England*, which is the Reaſon of my taking this notice of it here; and I muſt take the liberty of ſaying, that thoſe who think ſo are very much miſtaken, and moſt probably their Miſtake has ariſen from their neglecting to carefully obſerve the Motions and Actions of *Nature*, and their Non-attention to *Criſis's*, when they came: For *Fevers* are as regularly carried off by a *Criſis* and a *critical Evacuation* here in *England*, as they were in *Greece*. And it has been obſerved by ſeveral of the moſt eminent and learned Phyſicians in *Europe*, that Fevers in general are ſo.

As, by the learned Profeſſor *Boerhaave*[a], in *Holland*; Dr. *Fred. Hoffman*[b], in *Germany*; Dr. *Sydenham*[c], Dr. *Huxham*[d], Dr. *Win-*

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[a] Boerhaavii Aphor. de Cog. & Cur. Morb. Aph. 587. Et Com. Bar. Van Swieten in ejuſd.

[b] Fred. Hoffm. Med. Rational. Tom. 3. Sec. 1. Cap. 25, &c.

[c] Sydenhamii Opera paſſim.

[d] Huxham de Aere et Morb. Epidem. paſſ.

Winteringham[e], and ſome others, in *England*; and I may add, that I have conſtantly obſerved in above thirty Years Practice, that all epidemical, contagious, putrid, and malignant Fevers, and the ſlow nervous Fevers, and moſt Fevers in general, come as regularly to their *Criſis*, not only here in *England*[f], but I alſo obſerved that they did ſo in the Iſland of *Barbadoes*[g], which is ſituated within the *Torrid Zone*, and is as much warmer than *Greece* as *Greece* is warmer than *England*; and as the Frame and Make of Men are near the ſame in all Nations, ſo are Diſeaſes nearly the ſame; and as *Fevers* are found to come regularly to their *Criſis*, and go off by a critical Diſcharge in thoſe very different Climates of *England* and *Barbadoes*, as they did in *Greece*, we may ſafely conclude, that they do the ſame in all other Nations.

We muſt except here ſuch Fevers as are not infectious, contagious, nor epidemical, but are topical, and purely inflammatory; which happen accidentally from a Hurt or Contuſion, or from an Obſtruction of ſome of the ſmall Veſſels in ſome particular Part, as a ſimple inflammatory Quincy, Rheumatiſm, a ſolitary Pleuriſy, and ſome other topical Inflammations, which are taken off by a Reſolution of the obſtructing Matter, and cured by Bleeding and attenuating *antiphlogiſtick Medicines*, or end in a Suppuration (if a Gangrene come not ſooner on) of the Part affected; which Suppuration may be called an imperfect *Criſis*, as it puts an end to the Fever, and is one of the Methods which *Nature* takes when ſhe cannot reſolve or concoct the obſtructing *morbid Matter*, and ſo carry it off by ſome of the excretory Paſſages by a critical Evacuation.

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[e] Wintering. Comment. Horolog. paſ.

[f] Obſerv. on the Air and Epidem. Diſeaſe at Rippon, in the 2d Edit. of the Treat. on the Small-pox.

[g] See Obſerv. on Air and Epidem. Diſ. in Barbadoes, paſ.

We muſt alſo obſerve, that we do not always find that the ſame *Fever* comes to its *Criſis* on the ſame Day, or in the ſame Number of Days here, that it is ſaid to have come in by *Hippocrates*, or the other *Greek Phyſicians* in *Greece:* Neither does the ſame *Fever* come to its *Criſis* here, on the ſame Day in all Years, but ſooner on in ſome Years, and is longer in other Years, before it is critically judged; and I found the ſame Variation in *Barbadoes* [h], which probably proceeded from the different State of the Air and Seaſons, in thoſe different Years; by which we find, that the ſame Diſeaſes differ greatly in different Years, and require a very different Method of Cure [i]. Neither is the ſame Fever always carried off by the ſame critical Diſcharge, but ſometimes by different critical Evacuations in different

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[h] Idem p. 39, 45, 57, 93, 98.

[i] See on the Epidem. Diſeaſe at Rippon, with the Treatiſe on the Small-pox, &c.

Years; tho' it is moſt commonly by the ſame in the ſame Country, tho' it may come in different Days in different Years in any Climate. But I muſt alſo obſerve, that the ſame Fevers are not always carried off by the ſame critical Evacuation in the warmer Climates, as in that of *Barbadoes*, &c. as they are in the colder, as in *England*; probably becauſe the Quantity of Matter uſually carried off by Perſpiration, and eſpecially by Sweat, is ſo much greater in the warm Climates, than it is in the colder; and the Quantity of animal Salts, which are continually carried off that way, is ſo great that it renders the Sweat there[k] much more ſalt and acrid, than it is in *England*; and the Quantity of thoſe Salts carried off by Urine, is much leſs there than in *England*: And *Nature* being ſo accuſtomed to diſcharge ſuch a great Quantity of thoſe animal Salts by Sweat in the warmer Countries, it is no wonder that a *Criſis* carries off the *morbid Matter* of Diſeaſes much more frequently by *Sweating* there, than by *Urine*; and more frequently by *Urine*, in *England*. For I have obſerved, that the critical Diſcharge in *Fevers* there is generally by *Sweating*, ſometimes by Stool, and a chance time by Expectoration; but ſeldom or never, by *Urine*: And we ſcarce ever ſee any Sediment in the *Urine*, in any *Fever*, not even at the time of the *Criſis*, or at the latter End of, or after the *Criſis* is over, in that warm Climate. I have alſo a chance time obſerved, that the critical Day has been changed, as in the depuratory Fever, and in a Σύνεχεῖς, or continued remitting Fever, and in ſome other Fevers, wherein they have all come regularly to their *Criſis* on the ſame Day, for ſome time; and then the critical Day has been changed to a different Day[l], but this Change happened on the Change of the Seaſon of the Year; and I have always obſerved, that after the *Fever* ſo changed its *critical Day*, *Nature* regularly kept the *Criſis* to that Day afterwards, ſo long as that Fever continued to be ſparodick in that Year; unleſs a wrong Method of treating it, or ſome irregular Practice, had been uſed before I came; or ſome extraordinary Accident happened to the Patient a little before, or near the time of the *Criſis*, which diverted and hindered *Nature* from bringing it on at its uſual Time: Neither will a ſmall Matter at all times hinder *Nature* from bringing on the *Criſis* at its uſual Time, as I have ſometimes obſerved[m]: So that after I had once obſerved the Progreſs of a *Fever*, and the Day and Manner of its coming to its *Criſis*, I could eaſily and certainly predict both the Day, and by the Symptoms the Recovery of the Patient alſo, in all the other Patients who had the ſame *Fever* near that Time. But I muſt obſerve, that I have a chance Time obſerved, that the *Criſis* has come on, on the uſual critical Day of a Fever, when the morbid Matter has been carried off by a different critical Evacuation from that which it was carried off by in other Patients[n], at and near the ſame Time, in the ſame *Fever*; but that Accident moſt probably proceeded from ſomething peculiar in the Conſtitution and Structure of thoſe Parts in that Patient (tho' not viſible), which turned the morbid Matter from the one Part to the other Part in that Patient; therefore may be properly called a ſingular or peculiar Caſe.

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[k] Obſer. on the Air and Epid. Diſeaſe in Barbadoes, Introduct. p. 6.

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[l] Idem p. 39, 45, 57. Compar. p. 93. with p. 98.

[m] Idem p. 56, 57.

And it is as probable, that the Change of the critical Day, in the ſame Year abovementioned, proceeded from ſome Change in the Air, or Seaſon, which happened at or a little before that Time; as from a more cool to a warmer State of the Air, and from a moiſter to a dryer; or the contrary may happen, which may haſten or retard the Concoction and Expulſion of the morbid Matter more or leſs, and bring on the Criſis ſooner or later.

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[n] Obſerv. on the Air in Barbadoes, p. 98. and on Epidem. Diſ. at Rippon, p. 5, 26, &c.

Hippocrates mentions an intermitting Fever coming to its *Criſis* on the fourteenth Day, and then going entirely off[*]; but this is a Caſe which very rarely happens in *England*, except a chance time in a vernal intermitting Fever, altho' theſe Fevers are probably more frequent, eſpecially in ſome Parts of this *Iſland*, than they were in any Part of *Greece*. In the intermitting Fevers here, thoſe copious Sweatings, which uſually come on in the latter End of every Paroxyſm, and carry the *Fever* Fit entirely off for that Time, is properly a real true *Criſis* of that Fit, as it carries the *Fever* off: But the Solids being left, and ſtill remaining in a relaxed weak State, and ſome of the *morbid Matter* probably being left thereby in the Fluids, which they are not able to caſt entirely out of the Body, by reaſon of the diminiſhed *Momentum* of the Fluids, it is continually increaſed again till there is a ſufficient Quantity of it accumulated, to obſtruct the perſpiratory Pores, which irritates and oppreſſes *Nature*, and cauſes *her* to exert her *Vis Vitæ*, by which *ſhe* increaſes the *Momentum* of the Fluids, and brings on the *Fever*, after the cold Fit, or another Paroxyſm, which carries the *morbid Matter* off, by Sweating, as before; and ſo ſucceſſively more Paroxyſms, one after another, till the relaxed State of the Solids be braced

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[*] Hippoc. Aphor. Sec. 4. Aph. 59.

up, and their due Elaſticity be reſtored, by giving the *Cortex Peruviana*, or ſome other corroborating Medicines, which increaſes their elaſtick Force, and gives a due Motion to the Fluids, by which all the Secretions and other Functions of Life are reſtored, and carried regularly on again.

As I have mentioned ſome Diſeaſes which are topical, and truly inflammatory, it may be neceſſary to make a few further Remarks on them; as it may probably be of ſome Service to the young Phyſician. Theſe Diſeaſes are, a ſimple inflammatory Fever, inflammatory Rheumatiſm, inflammatory Quinſy, Pleureſy, Peripneumony; an Inflammation of the Stomach, Inteſtines, Peritoneum, Diaphragme, Mediaſtinum, Pericardium, the Brain, Kidneys, the Pelvis, and moſt other Parts of the Body; each of which have their peculiar Symptoms, and moſt proper Names, well known to Phyſicians, and are all accurately deſcribed by the learned Dr. *Boerhaave*[p].

All theſe Diſeaſes may, and ſometimes do ariſe from an Obſtruction in the ſmall capillary Veſſels, which proceeds from a Plethora, or too great a Fulneſs of good rich Blood, by being overheated with Exerciſe, ſpirituous Liquors, a heating and inflaming Diet, taking Cold when hot, and from ſuch like Cauſes; when the Perſons Blood was in

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[p] Boerhaave Aphor. et Bar. Van Swieten Lect. in iiſd.

a perfect healthful State a few Hours before: All which Diſeaſes frequently are, and may, if taken in time, be taken off and perfectly cured, by bleeding freely, and a liberal Uſe of antiphlogiſtick Medicines, aſſiſted by proper Fomentations to relax the over-tenſe and elaſtick Veſſels, and open the Pores; and a plentiful Uſe of a cooling, diluting, attenuating Liquid Diet; of which common Whey, as it is a ſaponaceous Liquor which ſoon mixes with and dilutes the Blood, is the beſt. And theſe Diſeaſes, if not ſo treated and cured, if they be violent, and the Inflammation great, either end in a total Obſtruction and Suffocation of the Veſſels, which is ſoon followed by a Mortification of the Part and the Death of the Patient; or otherwiſe the Part becomes ſchirrous, and ends in a painful chronical Diſeaſe; or in a Suppuration, and an Abſceſs in the Part; which, according to the Place it is in, either diſcharges the Matter, and they recover, or die.

But altho' theſe Diſeaſes ſometimes ariſe from theſe ſimple Cauſes, yet they more frequently proceed from an epidemical Cauſe, either from ſome peculiar Diſpoſition in the Air, or from ſome infectious Miaſma floating in it, which being received into the Body and carried into the Blood, produces thoſe Obſtructions, and theſe inflammatory Diſeaſes, which are in ſome

Seaſons and Years of a more inflammatory Nature, than they are in other Years; and alſo are attended with a much higher Degree of Inflammation in ſome Perſons and ſome Conſtitutions, than they are in others; and therefore require very different Methods of treating and curing them, both in thoſe different Years, and in thoſe different Conſtitutions; as in one Caſe they will require Bleeding in a much larger Quantity, and a much more liberal Uſe of antiphlogiſtick Medicines, than the other will- altho' it be the ſame Diſeaſe, when they both proceed from an epidemical Cauſe; and therefore neither of them can be entirely taken off and cured by Bleeding and antiphlogiſtick Medicines alone, as they may be in a ſolitary Inflammation; yet when the Inflammation is too great and violent, it may be ſo moderated by the prudent Uſe of them, that *Nature* will thereby be enabled to go on with the Work of Concoction of the morbid Matter, and its Expulſion by ſome critical Evacuation, either by Sweat, Urine, Stool, or by Expectoration, as epidemical Diſeaſes generally are carried off.

And as theſe Diſeaſes are ſometimes ſolely inflammatory, and at other times are attended with very different Degrees of Inflammation, and conſequently require as different Methods of Treatment, in order to cure them, according to their different

Cauſes, and the different Degrees of the Inflammation; we may ſee how abſolutely neceſſary it is accurately to obſerve and carefully diſtinguiſh whether they are ſolely inflammatory, or what Degree of Inflammation attends each of them, in order to form a truly rational and right Method of treating and curing them.

When they are ſolely inflammatory, the Pulſe is generally ſtrong, full, *tenſe*, and always *hard*, in proportion to the Strength of the Patient, and the Degree of the Inflammation, the *Fever* high, and the Pain acute, *&c.* therefore require large repeated Bleedings, and a liberal Uſe of Antiphlogiſticks; and when they are epidemical, and the Stimulus or Irritation of the Miaſma is conſiderably great, and the Patient's Solids ſtrong and elaſtick, the Inflammation and Fever and moſt of its Symptoms will be great alſo, and will require large and repeated Bleedings and a liberal Uſe of Antiphlogiſticks, ſo as to moderate the Fever, that Nature may be able to carry on the Works of Concoction and Expulſion of the morbid Matter regularly by ſome critical Evacuation, therefore they muſt not be ſunk too low.

And, on the contrary, when the Stimulus of the morbid Matter is more languid, the Patient of a weak Conſtitution, the Viſcidity o the Fluids conſiderably great, and the

Vis Vitæ of the Sick too languid and weak, all which are known by the ſmall, low, and moſt commonly a weak Pulſe, which do not indicate Bleeding, tho' the Pulſe may be quick and the Patient may be hot, eſpecially about the vital Parts, and ſometimes be delirious; but attenuating Antiphlogiſticks, prudently mixed with ſome Volatiles, and ſometimes gentle Cardiacks, not too heating, and a prudent Uſe of Veſicatories, with a diluting attenuating Cordial Diet, ſo as to aſſiſt *Nature* to break and concoct the morbid Matter, and render it fit to be carried off by a critical Evacuation, according to the Indications of *Nature*, and the Methods recommended by *Hippocrates*, *Sydenham*, and *Boerhaave*.

What is of the greateſt Importance in the Cure of theſe inflammatory Diſeaſes, is the diligently obſerving and accurately diſtinguiſhing (when acute Pains ſeize any of thoſe Parts, which are the Seat of any of theſe Diſeaſes,) whether the Caſe be truly inflammatory, or not, by their peculiar Symptoms, as well as when they are more, and when leſs inflammatory, which is a thing too often not ſufficiently obſerved and attended to; ſince it is not only certain, that all thoſe Diſeaſes which are called, and are generally allowed to be inflammatory Diſeaſes, are much more ſo in ſome Seaſons and Years, than they are in ſome other Years;

in which not only the Degree of Inflammation, and the Violence of all the Symptoms, as well as the Degree of inflammatory Sizineſs of their Blood, are all greater, and require much larger Bleeding, as well as a much more liberal Uſe of antiphlogiſtic Medicines, in one Year than they do in another, although it be the ſame Diſeaſe; yet proceed from different procatarctick Cauſes, and are attended with ſome different Symptoms, and therefore require different Methods of Cure. But what is of no leſs Importance, is, the carefully diſtinguiſhing thoſe inflammatory Diſeaſes, from ſome other Diſeaſes, which ſeize the ſame Parts with acute Pain, but are not inflammatory; or if a little ſo, ſometimes from the Acuteneſs of the Pain, yet are not always ſo, nor are they to be treated as ſuch; ſuch as the anomalous Gout, the Stone or Gravel, the Cholick, *&c.* which have been taken for an Inflammation of the Stomach, Inteſtines, Kidneys, or Bladder, *&c.* and each of theſe inflammatory Diſeaſes have been taken for the anomalous Gout, and treated as ſuch with as bad Conſequences, which we too often meet with, when called in too late to prevent their fatal Effects.

And ſeeing that more or fewer of theſe inflammatory Diſeaſes are Epidemical more or leſs, almoſt every Spring, and in the latter End of Autumn, and differ conſiderably

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in their Symptoms one Year, or time, from another, being ſome Years of a much more inflammatory Diſpoſition and Nature, than they are in other Years: And as theſe different Diſpoſitions, and the Diſeaſes themſelves, both ariſe from the different Temperatures and Diſpoſitions of the Air, and the different Conſtitutions of thoſe Years, as well as from the different Conſtitutions of Men, we may ſee how neceſſary it is, carefully to obſerve thoſe Variations of the Air, and the Seaſons, and the Effects which they have upon the human Body; both on the Sick, and the Sound or Well [q]; and the Diſpoſition and Tendency which they give to the Humours to flow to, and affect one Part of the Body more than another, at one Time or Seaſon more than at another, either by increaſing the Secretions and Excretions, in one Part of the Body, and diminiſhing them in another; or by the peculiar Tendency of the epidemical infectious Miaſma of that Conſtitution of the Air, towards one Part of the Body, or to one Secretion more than they had towards another: And from thence, and their peculiar Symptoms, we may both know that they are epidemical, as well as from the Numbers ſeized near the ſame time; and whether they are more or leſs inflammatory, if we obſerve and reaſon right; and from the Want of which, how often do we ſee one Diſeaſe taken for another, and treated accordingly; as, an epidemical Pleuritis Notha, or a Peripneumonia Notha, taken for a true inflammatory Pleuriſy, or Peripneumony; and *vice verſa:* And how often do we ſee theſe Diſeaſes, or an inflammatory catarrhous Fever, and an Inflammation of the Stomach, or of the Inteſtines, and of the Kidneys, taken for and treated as an anomalous Gout, with bad Conſequences; and ſometimes a true anomalous Gout, taken for and treated as an Inflammation of the Pleura, Lungs, Stomach, Inteſtines, or Kidneys, and too often as a Cholic, and in all with no leſs bad Conſequences; as alſo in ſome other Diſeaſes, although the true Symptoms of the *anomalous Gout*, are diſtinguiſhably different from the true Symptoms of any, and of all theſe inflammatory Diſeaſes, if we compare the true pathognomonick Symptoms of it, as they are accurately deſcribed by the learned Dr. *Boerhaave* [r], and Dr. *Muſgrave* [s], with the true Symptoms of any of thoſe inflammatory or other Diſeaſes[t]: It will lead us into a right Method of treating and curing both the Gout and them.

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[q] Thus, when a catarrhous Fever is Epidemical, how many People are affected with Coughs, and a ſlight Catarrh, yet go about their Buſineſs, and are tolerably well. And when a Diarrhœa Febrilis, or a Dyſentery, are Epidemical, how ſeveral People will have a looſe Belly, or a few looſe Stools, or a little Griping, yet go about Buſineſs, and are well. See Obſerv. on the Air and Epidem. Diſ. in Barb. paſ. Dr. Wintringham Com. Noſolog.

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[r] Boerh. Aphoriſm. de Podagra. Aph. 1273, &c.

[s] Muſgrove de Arthrit. Anomala.

As all true inflammatory Diſeaſes require Bleeding, and antiphlogiſtick Medicines, more or leſs, according to the Degree of the Inflammation, and the Strength of the Patient, to take the Inflammation off, and cure them; which would be very injurious in the anomalous Gout, which moſt commonly requires warming volatile cardiac Medicines, and ſometimes the Aſſiſtance of Chalybeats alſo[u], to expel the gouty Humour to the remote Parts of the Body, and ſometimes Bathing or Fomenting, and other topical Applications, as Fœnigmi, and ſometimes Veſicatories, to, or near thoſe remote Parts, in order to draw the gouty Humour to them.

And theſe warming volatile and heating cardiac and chalybeat Medicines, which will increaſe the Momentum of the circulating Fluids, and thereby aſſiſt *Nature* to carry the gouty Humour from thoſe internal Parts, to the extreme Parts, where the gouty Humours ſhould be carried, and there caſt out of the Body by Sweating, would, by increaſing the Motion of the Blood, and the Heat of the Inflammation and Fever, render thoſe inflammatory Diſeaſes incurable, and certainly mortal. And Bleeding, and a liberal Uſe of antiphlogiſtick Medicines, which would cure thoſe inflammatory Diſeaſes; would be as prejudicial in the anomalous Gout, as they would diſable and hinder *Nature* from caſting it out upon the extreme Parts, and either fix the gouty Humour where it was, or draw more of it thither, or elſe caſt the whole Humour upon the vital Parts, and be fatal.

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[t] Boerh. Aphor. de Cog. &c.

[u] Muſgrove, Ibid.

I know there are ſome particular Caſes where the Gout has been attended with too great a Degree of Inflammation, wherein Bleeding has been neceſſary; as when the Patient had ſtrong elaſtick Solids, and the Vis Vitæ has been too ſtrong and great, from the great Stimulus of the arthritick Pains, and the inflammatory Sizineſs of the Blood from thence, or from taking Cold a little before, and the Gout ſeizing ſuch a Part as was neceſſary for continuing Life, *&c.* all which Circumſtances not only render Bleeding moderately neceſſary, but the Uſe of ſome Antiphlogiſticks, with Volatiles alſo: And I have known a *Pleuritis Arthritica*, and an *Angina Arthritica*, and ſome other arthritick Caſes, which required, and were ſpeedily relieved, by cautious moderate Bleeding, and the Uſe of attenuating Antiphlogiſticks, with Volatiles, and the Aſſiſtance of the above-mentioned topical Applications, whereby the Gout was in leſs time than 48 Hours brought into the Feet, without giving either the heating Aromaticks or Chalybeats, as they would have increaſed the Inflammation too much; and the Gout continued its proper time in the Feet, and went regularly off: But when the anomalous Gout ſeizes thoſe, or any other Parts of the Body, as it frequently does, without any inflammatory Symptoms attending it, and is accompanied with the true pathognomonick Symptoms of that irregular kind of Gout, more ſubtile warming Aromaticks and Chalybeats are indicated, as they increaſe the Vis Vitæ, and the Momentum of the Fluids, which in that Caſe are always too languid and low, as the Pulſe ſhews; though it may be quick, from the Stimulus of the Pain, in ſome Caſes, but never full and ſtrong, and thereby aſſiſt *Nature* to carry the gouty Matter to the extreme Parts, where it may be carried off by Sweat; and in this Caſe it may be aſſiſted by the before-mentioned Bathing the Feet in warm Water, and the other topical Applications. But how often do we ſee ſome of the above-mentioned inflammatory, as well as ſome other Diſeaſes, either from a Want of duly obſerving, by being in too much Haſte, or from a want of Reaſoning truly from the Cauſes to their Effects, taken for and treated as an *anomalous Gout*, with bad Conſequences, and which might have been eaſily helped by a proper Method of treating them: And I have been well informed of a Caſe of the Gout at the Stomach, with ſome Pain in the Head, for which a large Veſicatory was applied to the Head, which ſoon brought the gouty Humour thither, and cauſed it to ſwell in an extraordinary manner, and killed the Patient in 30 Hours time; whereas, if it had been applied to the Feet or Ancles, and other proper Methods uſed at the ſame time, would have drawn the Gout thither, and have ſaved the Life of the Patient.

I could mention many more ſuch like Miſtakes, which I have met with, when called in, and ſometimes too late to relieve them; therefore I mention theſe for the Sake of the young Phyſicians, that they may avoid them, becauſe it is of as much Service as placing a Buoy on a Rock or a Shoal is to the Sailors, to avoid ſplitting or falling upon it; and is of no leſs Service to the young Phyſician, and may ſo far contribute to improve medical Knowledge: But nothing without accurate Obſervations, after all our Reading, with true inductive mechanical Reaſoning, from certain *Facts*, obtained by and from them, and carried on always conformable to *Nature*, and to what *ſhe* indicates and really does, can always conduct us right, and be truly ſatisfactory to the judicious and honeſt Phyſician.

And as I am upon this Subject of Veſicatories, it may not be improper to make ſome Remarks upon the *Uſe* and *Abuſe of Veſicatories*, which notwithſtanding that it has been already done by more learned Hands, the great *Boerhaave*[a], and the learned Dr. *Baglivi*[b]; yet I have long obſerved, that they are too frequently and too often improperly uſed, as they are now ſo much in faſhion. No doubt but that *Veſicatories* are, in ſome particular Caſes, a very uſeful and efficacious Remedy, when they are truly indicated, and judiciouſly applied; but it is very probable, that we have no one *Remedy*, in all the *Materia Medica*, that is ſo frequently abuſed, and ſo often improperly applied, as *Veſicatories* now are; not only in too many Caſes, where they cannot poſſibly give any Relief, but too often where they muſt unavoidably increaſe the very Evil, which they are intended to remove or relieve. How often do we ſee them applied, and ſometimes ſeveral of them at the ſame time, by pretending Dabblers in Phyſick, not only where there are no Indications for applying them, but where the true Indications are againſt their Application; as, in the Beginning of moſt *Fevers*, and eſpecially in thoſe of the *Inflammatory*,

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[a] In his Lectures on his Aphoriſms, when treating on Fevers and acute Diſeaſes.

[b] Bagliv. de Uſu et Abuſu Veſicantium.

Inflammatory, and of the *putrid Kind*, where, in the firſt, the Stimulus of the acrid Salts of the *Cantharides*, which paſs into the Blood, muſt unavoidably increaſe both the Stimulus, and the Momentum of the Blood, which were too great before, (and thereby indicated Bleeding) and ſo render the *Fever*, Inflammation, and all its Symptoms worſe.

And in *putrid Fevers*, eſpecially in the *putrid bilious Fever* in the *Weſt-Indies*, where the whole Maſs of the Blood is in a violent Motion, and in a diſſolved State in the Beginning of it, and is continually diſſolving, and haſtening on to a more diſſolved putreſcent State; and in a *putrid Synochus*, and ſome other putrid Fevers here, where the Blood is in an attenuated, half-diſſolved, putreſcent Diatheſis; where the *alkalious ſemi-volatile acrid Salts of the Cantharides*, muſt not only by their Stimulus increaſe the Velocity and Momentum of the Blood, which was, in the Beginning of the Fever, too great before, and ſo haſten on its Diſſolution; but by their attenuating, diſſolving, and putreſcent Property, muſt greatly increaſe its Diſſolution and Putrefaction, and all the bad, and often fatal Symptoms, and render them ſtill much worſe; which repeated Experience confirms.

For, it is well known to the Judicious, both from Obſervations and Experience, that all the *alkaline Salts*, both *volatile* and *fixed*, and their *volatile Spirits* when taken inwardly and carried into the Blood, do both attenuate, diſſolve, and increaſe the putreſcent Diatheſis of the Blood and animal Fluids, which repeated Obſervations and Experiments alſo confirm; and not taken from Experiments made on Pieces of dead Fleſh, or with dead Animal Fluids, in a State of Reſt; but by taking them inwardly, and their circulating with the Animal Fluids, where they have a very different Effect, from what they have when mixed with thoſe that are dead, and in a State of Reſt.

And it is as well known that the *Cantharides* contain a great Quantity of alkaline ſemivolatile Salts, which paſs into the Blood, tho' they are applied externally; and attenuate, diſſolve, and haſten and increaſe its Putrifaction, which is alſo confirmed by the putrid alkaline Acrimony which they produce in the Urine, with the Heat and Strangury which it gives to the urinary Paſſages. And altho' theſe inflammatory and putrid Fevers differ very greatly, both in their Cauſes and their Effects, yet it is very evident that Veſicatories are very hurtful in the Beginning of them both, and at any time in the laſt; as they increaſe the Inflammation in the one, and the Diſſolution of the Blood in the other. And, if they had not theſe bad Effects when they are thus wrong applied, they could not produce thoſe extraordinary good Effects, which we ſee they frequently do by attenuating the Fluids when they are too viſcid, and ſtimulating the Solids to a briſker Action on their contained Fluids when they are too torpid and indolent, which they do when thoſe Symptoms indicate their Application, and thereby concoct the morbid viſcid Matter, and ſo aſſiſt Nature to bring on a *Criſis* and a critical Diſcharge of it.

As I have endeavoured to ſhew in a ſhort manner in what Caſes *Veſicatories* are prejudicial, it may not be improper to mention ſome Caſes wherein they are indicated, and are greatly ſerviceable, that they may be only applied properly, and when they are truly indicated. As, where there is an indolent inactive Torpor and a Weakneſs of the Solids in a greater or leſs degree, an Inertneſs and a Viſcidity of the Fluids, more eſpecially of the Serum, Lymph, and finer Fluids, and a Weakneſs or Diminution of the *Vis Vitæ* at the ſame time, attended with a ſmall, ſoft, low, indolent or weak Pulſe, or with Spaſms, Tremors, a *Subſultus Tendinum*, or an intermitting Pulſe, or a Coldneſs of the extreme Parts, (tho' hot at the Præcordia and in the Head) which are the Effects of the Inactiveneſs and Weakneſs of the Solids, and the Viſcidity of the Fluids; and in the laſt Stage of the Small-pox and Meaſles, and in the latter End of ſome inflammatory and ſome other Fevers, where previous Evacuations have been made before, where the Fluids are become viſcid, and the Solids languid or a little torpid, and attended with ſome of the above-mentioned bad Symptoms; all which indicate the Application of Veſicatories, and being then applied, they frequently produce extraordinary and almoſt wonderful good Effects, and often reſtore the Sick from the very Jaws of Death: They are alſo of no leſs Service to derive and aſſiſt *Nature* to make a Revulſion of the Gouty or other Humours from the Head or other vital Parts, to the extreme Parts; and as Derivatives and Revellents, to make a Revulſion of the critical morbid Matter, which ſometimes has a Tendency to, or is caſt upon the vital Parts, to derive it from thoſe to the remote or ſuch other Parts of the Body, by which it may be carried off and critically diſcharged out of it. Likewiſe in moſt paralytick, and ſuch like torpid and cold Caſes where a Stimulus is wanted, they not only ſtimulate the Solids, and thereby produce a briſker and more vigorous Action in them on their contained Fluids, but they alſo attenuate the ſizey viſcid Fluids at the ſame time; and when they are thus indicated, and properly timed and applied, they frequently thus produce wonderful good Effects, not only in thoſe cold Caſes, but in the latter End of Fevers, attended with the before-mentioned Symptoms: They, by ſtimulating the Solids, and attenuating the Fluids at the ſame time, aſſiſt *Nature* to attenuate and concoct the morbid Matter, and carry it off, and the Fever alſo, by an effectual critical Evacuation, even ſometimes when *ſhe* would ſink under it without their Aſſiſtance, and ſo aſſiſt *her* to reſtore the ſick Patient to Health again. And thus, by only applying them when they are truly indicated, (as they always are by *Nature* when neceſſary,) we may improve their Uſe, and avoid their Abuſe, and render them more uſeful to Mankind.

There is another Obſervation, which I made ſeveral Years ſince, and intended to have mentioned it in a Note in the *Treatiſe of the Diſeaſes* in *Barbadoes*, but it was ſome way omitted or loſt by the Printer, as I was abſent when the latter Part of that Book was printed; which alſo cauſed ſome Miſtakes and Errors in the Preſs. And as it is an Obſervation which I have not met with in any Author, and as it more clearly explains the Cauſe, and improves the Theory of that painful and ſometimes dangerous Diſorder or Symptom, the *Singultus* or *Hiccup* in ſome Fevers, it may not be unworthy of a Place here, tho' foreign to the Subject, unleſs it has ſome little Claim to its being a ſmall Improvement, or ſomething new.

The

The *Singultus* or *Hiccup* has been hitherto aſcribed by all the Authors that I have met with, even the lateſt Writers[a], to a convulſive Spaſm of the Diaphragm and the Stomach; which, I apprehend, is miſtaking its Effect for its Cauſe. If we attentively obſerve, and duly examine the Motions and Action of all the Parts concerned in the Action of that convulſive Spaſm, we may clearly perceive, that it is ſolely cauſed by a ſtrong convulſive Contraction of the *Oeſophagus* only, the ſuperior End of which being firmly fixed to the *Os Sphenoides, Os Hyoides,* the *Cartilago Scutiformis,* and the *Proceſſus Pterigoideus,* &c. and the lower End of it to the *Cardia* of the Stomach, immediately after it has paſſed through the Foramen of the Diaphragm, and hangs ſo looſe that it may be eaſily moved: And when the longitudinal Fibres of the Oeſophagus are contracted, and it is ſhortned by that convulſive Spaſm, its upper End being fixed, it muſt ſuddenly draw both the Stomach and the Diaphragm with it ſtrongly upwards, which ſudden Action being often ſtrongly repeated cauſes that painful Senſation at the Cardia and Diaphragm which uſually attends it, when the Hiccup continues any conſiderable time. Whence we ſee, that it is the Contraction of the *Oeſophagus,* which is the immediate Cauſe of the *Hiccup*; and that the Diaphragm is no other way concerned in the Action, or in producing it, than as it is acted upon by the *Gula*, and the Stomach; and the Procatarctic Cauſe of it is uſually ſomething acrid, that irritates and ſtimulates the longitudinal Fibres of the internal Coat of the Oeſophagus, after being taken into, and adhering to its internal Coat; or from ſomething riſing or being gulped up out of the Stomach into it, which is acrid and irritates it, and cauſes that convulſive Spaſm; wherefore we find that in a common Hiccup, a little cold Water or ſoft Liquor takes it off, by waſhing that acrid Matter down into the Stomach, where it gives no Diſturbance; or a gentle Puke or two, and an *Anodyne* and a little *Muſke* after it. I grant it may ſomeimes ariſe from a Contuſion or Wound of the eighth Pair of Nerves, which give Senſation and Motion to the *Gula*; or poſſibly from the Brain or thoſe Nerves being affected in ſome particular Fevers, but I believe this laſt ſeldom or never happens; and to ſuppoſe it, is ſeeking for a complicated doubtful remote Cauſe, which never ſhould be admitted in Philoſophy or Phyſick, when an evident and ſufficient Cauſe is or may be found, *viz.* either ſomething acrid taken into, or riſing up from the Stomach into the Oeſophagus, which irritates it, and produces thoſe convulſive Spaſms.

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[a] See the ingenious Notes of Dr. Swan, in his Tranſlation of Dr. Sydenham's Works, p. 41.

There are ſome other Caſes and Obſervations, which might have been mentioned here; but as it is probable that they have been obſerved by ſome others, I ſhall omit them now, as this Treatiſe is already grown much larger than I intended it: And if we diligently purſue this Method of carefully obſerving, and reaſoning agreeably to the Actions of *Nature*, it is hoped that many more uſeful Diſcoveries may be made.

As it appears from all that we can collect, both from the Works of all the ancient and modern Phyſicians and Hiſtorians, that all Medicinal Knowledge, and all the uſeful Diſcoveries and Improvements which have been made in that *Art*, from its firſt Riſe and Beginning to this Day, have been all obtained by the means of making careful Obſervations and judicious Experiments, which have been carried on and further improved by the Aſſiſtance of juſt inductive Reaſoning.

It was by this Method, and theſe Means, that the *great Hippocrates* made all *his* great *Diſcoveries* in the *Medical Art*; it was by theſe means that *he* was enabled to inveſtigate the Cauſes of Diſeaſes; and by the ſame Method of obſerving *Nature*, and what ſhe did and indicated to be done, and always keeping his inductive Reaſonings ſtrictly conformable to them, and to the Effects which *he* ſaw *Nature* did really produce in the human Body, that enabled *him* to form ſuch rational and judicious Methods of treating and curing Diſeaſes. And thus, and by theſe means, all the Diſcoveries and Improvements which have been made by all Phyſicians ſince *him*, in the *Medical Art*, have been made both by the Ancients and Moderns.

So likewiſe, the Diſcovery of the Circulation of the Blood, and the inſenſible Perſpiration, and all the other great Anatomical Diſcoveries before-mentioned, were made by the ſame Methods and Means.

Thus the great *Sir Iſaac Newton* diſcovered the *Laws of Motion of Matter*; and thus all the real Improvements which have been made in the *Medical Science* ſince that great Diſcovery, have been made by accurate Obſervations and judicious Experiments, carried on and further improved by true mechanical inductive Reaſoning from certain *Data*, and real *Facts*, (obtained by thoſe Obſervations and Experience,) to their Effects, that a more certain Knowledge of the Cauſes and the Manner of the Production of Diſeaſes has been obtained, and further improved: It was thus, and by theſe means, that the *great Dr. Boerhaave* formed, and gave us a *true Theory of Diſeaſes*: And then by as carefully obſerving what *Nature* did, and indicated to be done, and the Effects which ſhe really produced in the Body when ſhe acted in the moſt ſalutiferous manner, aſſiſted by *true inductive mechanical Reaſoning* from thoſe *Cauſes* to their *Effects*, and always keeping *his* Reaſoning conformable to the *Laws of Motion*, and to the Motions and Actions of *Nature*, *he* formed a no leſs *rational*, *true* and ſucceſsful *Method of Practice*, which is in all reſpects conformable to *Reaſon*, *Nature*, and the *Laws of Motion*.

And as theſe are the Methods by which all true Medicinal Knowledge has been obtained, we may conclude, that they are the only Methods by which the Medical Art can be further improved; and the only Method which can be truly ſatisfactory to every honeſt Phyſician, and can juſtify his Practice, either to himſelf or to others, not only in knowing the Cauſes and the Methods of treating and curing all ſuch Diſeaſes as are now known, but alſo to diſcover the Cauſes and Methods of treating and curing all ſuch *new Diſeaſes*, as may appear hereafter.

I ſay *new Diſeaſes*, becauſe it is well known to the Learned, that ſeveral *new Diſeaſes*, which were not known before, have ariſen at different times, and appeared in different Nations; and we cannot ſay, that no other new Diſeaſes will appear hereafter. The *Small-pox* and *Meaſles* firſt appeared in *Arabia Felix*, where they were indigenous, and were unknown to all other Nations, till they were brought from thence into *Egypt*[a], about the Middle of the Seventh Century; and were ſpread a few Years after over all *Europe*[b], *Africa* and *Aſia*, even as far as *Japon*[c].

And that peſtilential Fever called the *Sweating Sickneſs*, firſt appeared in the Year 1483, and returned again five times in the Space of Sixty-eight Years[d]; and never was either known before, nor has it ever been heard of ſince.

The *Lues Venerea* was firſt brought by *Columbus*'s Sailors, from the Iſland of *Hiſpaniola* in the *Weſt-Indies*, to the Siege of *Naples* in *Italy*, in the Year 1494[e]; from whence it ſpread all over *Europe* in a few Years Time, and all the World over ſince.

And the *Rachitis*, or *Rickets*, is another new Diſeaſe; which firſt appeared in the Inland Part of *Britain*, about the Middle of the Sixteenth Century[f]; and ſoon after ſpread itſelf over this and all the other Northern Nations.

Near the ſame Time, another new Diſeaſe firſt appeared in *Germany*, A.D. 1486, which we call the *Scurvy*[g]; and ſoon after ſpread itſelf over moſt of the Northern Nations, and ſtill continues in them.

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[a] Hillary on the Small-pox in Introduc.

[b] Dr. Friend's Hiſt. of Phyſ. Vol. 2.

[c] See Dr. Kempfer's Hiſt. of Japon.

[d] Dr. Caius de Ephemera Britannica.

[e] Aphrodiſiacus et Boerhaav. Aphoriſ. Aph. 1440.

[f] Idem Aph. 1480.

[g] Idem Aph. 1148.

And the *Aphthæ Gangrenoſæ*, commonly called the *malignant ſore Throat*, which appeared in *London* and ſome other Parts of *England*, about twenty Years ſince, and has not entirely left this Nation yet, tho' it is not ſo frequent now, as it was; it was looked on as a new Diſeaſe by ſome Perſons here, altho' it is a Diſeaſe which was very well known in ſeveral other Countries, many Years before; and, I think, is deſcribed by *Aretæus Cappadox*[h], in his conciſe and elegant manner; from whence it appears to have been a Diſeaſe, which was either frequent in, or at leaſt was well known in *Egypt*, and in *Syria*, ſeveral Ages before his Time (which was in the Second Century); becauſe he ſays, Ὅθεν αἰγύπτια ϗ Συριακά ἕλκεα ταδέ κικλησκȣσι[i]. *Unde Ægyptia et Syriaca ulcera id genus appellant.* It is alſo mentioned by *Ætius* of *Amida*, who lived in *Syria*[k]. But we find no mention made of it, either in *Greece*, *Egypt*, or *Syria*, either by any of the *Greek* or *Arabian Phyſicians*, who lived in thoſe Countries after them; nor in any other Country, till it appeared again in *Spain*, about the Year 1610, and ſpread itſelf ſoon after along the Coaſt of the *Mediterranean Sea* into *Italy*, and continued to be epidemical in thoſe Countries near the Space of Twenty Years, and then diſappeared. It was fully deſcribed by ſeveral Phyſicians, who lived in thoſe Countries at that time, viz. *Heredia*[l], *Mercatus*[m], *Severinus*[n], *Zacutus Lucitanus*[o], *Ætius Cletus*[p], *Sgambatus*[q], *Fracaſtorius*[r], and ſome others. It has had various Names given to it, by different Authors; but the learned Dr. *Boerhaave* moſt properly places it among the Aphthæ, and calls it *Aphthæ Gangrenoſæ*[s]; and very accurately deſcribed it, and all its Symptoms, and Method of curing it, in his Lectures on thoſe Aphoriſms. We meet with no Account of this Diſeaſe, after the time of the aboveſaid Authors, nor any mention of it, except by Dr. *Boerhaave*, till it appeared in *London*, A. D. 1739, and ſoon after ſpread itſelf into ſeveral Parts of *England*, and is well deſcribed by the ingenious Dr. *Fothergill*[t]; and ſince by the learned Dr. *Huxham*[u], and Dr. *Wall*[w] of *Worceſter*, with ſome Improvements in the Method of treating and curing it.

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[h] Aretæi Cappad. Opera, L. 1. Cap. 9.

[i] Aretæi Cappad. Oper. L. 1. p. 10.

[k] Ætii Teterabib.

This Diſeaſe alſo ſpread itſelf into moſt of our *American Colonies*, and into the *Weſt India*

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[l] Hered. Opera Med. de Morb. Acut. p. 99.

[m] Mercat. Opera Conſult. Tom. 5. p. 134.

[n] Severini Oper. de Remed. ab Natura, p. 446.

[o] Zacut. Lucit. Prax. Med. Admir. L. 1. Ob. 90.

[p] Ætii Cleti de Morb. Strang.

[q] Sgamb. de Peſtil. Fauci.

[r] Fracaſt. Opera.

[s] Boerhaavii Aph. Aph. 948, 989. Et Bar. Van Swieten, Com. in ejuſd.

[t] Dr. Fothergill on Sore-Throats, 1748.

[u] Dr. Huxham on Malig. Sore-Throat.

[w] Dr. Wall in Philoſ. Tranſ. Abr.

India Iſlands alſo; but it only continued for a few Months in the laſt, eſpecially in the Iſland of *Barbadoes*, and then totally diſappeared.

But a few Years before this Diſeaſe came thither, another *new Diſeaſe*, of a different Nature, appeared in ſome of thoſe *Iſlands*, which has increaſed and ſpread itſelf conſiderably, eſpecially in *Barbadoes*, during the ten Years laſt paſt. And as I could not meet with any *Author*, either *Greek* or *Arabian*, or any other, either Ancient or Modern, that have either mentioned or deſcribed any Diſeaſe, that is in all Reſpects like to, or reſembles it; and as it was *new*, and had no Name, I called it *Aphthoides Chronica*; as it the moſt reſembles the *Aphthæ* of the *Ancients*, of any Diſeaſe that we know: Yet it differs conſiderably from the *Aphthæ* of both the *Ancients* and the *Moderns*; as it is a Chronical, but the *Aphthæ* an acute Diſeaſe, and in ſeveral other Reſpects; and more ſo from the *Angina Gangrenoſa*. And as it was a *new Diſeaſe*, I endeavoured to inveſtigate its Cauſe, and the manner of its Production, from Obſervations made upon it, and its Symptoms, Progreſs, and Effects; and from thence I endeavoured to form a rational Method of treating and curing it; all which I have deſcribed in ſuch a plain clear manner, that the Diſeaſe may be eaſily known when ſeen, by thoſe who have not ſeen it before: To which is added, that Method of treating and curing it, which I found to be the moſt ſucceſsful. *See Obſervat. on the Air and Diſeaſes in Barbadoes,* pag. 277, *&c.*

And ſeeing that various *new Diſeaſes* have appeared within the three laſt Centuries, and ſome of them within the ſhort time of our own Obſervation, within the preſent Age; when we duly conſider theſe things, and ſeriouſly reflect on the great Height to which the Effeminacy, Idleneſs, and Luxury of the preſent Age are carried, more eſpecially among the middle and lower Sort of People; which if they do not in time produce ſome political Evils, are in danger of producing many corporeal Evils, either by increaſing and aggravating the already known Diſeaſes, or by generating ſome new Diſeaſes, which are now unknown, but may ſooner or later ariſe, and appear hereafter; at leaſt it is much more probable that ſome ſuch new Diſeaſes may appear, than the contrary that they will not.

But if hereafter any ſuch *new Diſeaſes* do ariſe, the moſt certain way to truly know what they really are, from whence they proceed, what their Diſpoſitions, Tendencies, and Natures, and what their true Cauſes are, muſt be inveſtigated by making accurate Obſervations upon all the Changes of the Air, Weather, and the Seaſons, before, and at the time of the Acceſſion of thoſe new Diſeaſes; what Effects thoſe Changes of the Air, *&c.* have upon the Bodies of the Sound, as well as on the Sick, and what Changes they produce in their Bodies; what Diſeaſes were Epidemical before, and at the time of the Acceſſion of thoſe Diſeaſes, and how much they partake of their Symptoms; what Secretions, Excretions, and Functions of Life are the moſt affected, and how, and what Effects they produce; and what Symptoms attend thoſe new Diſeaſes, in all their Stages, their Acceſſion, Increaſe, Height, Declenſion, and their Criſis, and by what critical Evacuation they are carried off: And then by the means of true inductive mechanical Reaſoning, from thoſe remote and immediate Cauſes to their Effects, we may truly know both what the Diſeaſe is, and what is its Cauſe. And then by obſerving what *Nature* does, and indicates to be done, aſſiſted by the ſame Method of Reaſoning, from thoſe Cauſes, and their Effects, conformably to what *Nature* does, and indicates to be done, we may know both how, and when we may, and ſhould aſſiſt *her* in the moſt effectual manner, to carry off and cure thoſe Diſeaſes.

By this Method of diligently obſerving, and Reaſoning juſtly and truly, which in ſome Caſes, eſpecially in Diſeaſes that are new, may be aſſiſted by a true Analogy from ſimilar Caſes, we may not only truly know what thoſe new Diſeaſes are, (as well as know all other Diſeaſes) and their Cauſes, but we may alſo form the moſt rational and judicious Methods of treating, and the moſt ſucceſsful Methods of curing them; if we do but always take care to reaſon from certainly known Data, and conformably to what *Nature* indicates, and really does, and aſſiſt her agreeably thereto. And as carefully avoid falling into the Method of forming Hypotheſes, and Reaſoning from imaginary Data; which in all Ages have not only led Men into Miſtakes and Errors, but have diverted them from purſuing thoſe Methods, by which they might have diſcovered Truth, and improved both philoſophical and medicinal Knowledge, for the Benefit of Mankind.

SECT. V.

Some Remarks on the Materia Medica.

IT appears from what is ſaid before, that all true medicinal Knowledge, both in the *Theory* and *Practice of Phyſick*, and all the Improvements which have been made therein, from its firſt Riſe to this Time, have all been obtained by making accurate

Obſervations and Experiments, aſſiſted by juſt inductive mechanical Reaſoning, conformable to *Nature*, and her Manner of acting.

It was by theſe Methods, and theſe Means, that the Knowledge of the Structure of the human Body, and the Uſe and Office of all its Parts, and the different Functions of Life which they perform, have been diſcovered and known; and it was by theſe Means, that the remote and immediate Cauſes of Diſeaſes, and their Manner of being produced, have been inveſtigated; and it was by the ſame Method of obſerving *Diſeaſes* and *Nature*, and the Effects which ſhe produced, that the moſt rational and right Methods of treating and curing them, were diſcovered and known, and by juſt inductive Reaſoning have been improved. And in knowing how to do all theſe right and truly, conſiſts the moſt eſſential and ſcientific Part of medical Knowledge, and the medical Science; and is what will always diſtinguiſh the *real* from the *nominal Phyſician*, and from the *Empirick* and the *Quack*.

It is not our having a great Number of choice *Preſcriptions*, or a great Variety of *Formulæ*, however neat and elegant, or how efficacious ſoever they may be, when properly and judiciouſly adapted and applied; or our having the greateſt Collection of the beſt Preſcriptions, from the moſt able Phyſicians, or the moſt learned Authors that ever preſcribed, that will make either the moſt able, or the moſt ſucceſsful Phyſician; but his truly knowing the Diſeaſe, and what its Cauſe really is, and when and how he ſhould aſſiſt *Nature* by adminiſtring ſuitable Medicines, and when not to give ſuch Medicines as above; for unleſs the ſame Circumſtances, Symptoms, and Indications of *Nature*, do truly indicate their being given at that very time, they will not produce thoſe ſame good Effects, which they may have ſeen them produce before, when they were ſo indicated and preſcribed by that Phyſician, tho' it be the ſame Fever or Diſeaſe; therefore they not only do no Service or Good, but may do Hurt, if they are not ſo indicated by *Nature* to be given. Wherefore, I have given no *Preſcriptions* here, in thoſe few particular Caſes, which I have had occaſion to mention in this Treatiſe; as a Number of *Formulæ* would only ſerve to lead young Phyſicians into an empirical Practice. And I ſuppoſe him already to know the Nature and Virtues of moſt of the ſimple Medicines; which are *Emeticks, Cathartics, Diureticks, Sudorificks, Antiphlogiſticks, Antiſepticks, Deobſtruents, Attenuants, Incraſſents, Cardiacks, Corroborants,* or *Anodynes*; and which of each of them are the weakeſt and mildeſt, and which are the moſt powerful active, and the ſtrongeſt; and both when, and what Doſes, as well as to what Conſtitutions he ſhould preſcribe each, or any of them; as well as what Secretions they increaſe, and by what Evacuations they uſually paſs off.

As the moſt material Thing is, and true Medical Knowledge conſiſts in truly knowing the Diſeaſe and its Cauſe, and what Nature indicates to be done, and by what way ſhe intends or indicates the Diſeaſe to be carried off; this being known, he will readily know what Medicines will moſt effectually aſſiſt her, as well as when he ſhould direct them to be given. For if he only preſcribes, or gives ſuch a Medicine, becauſe ſuch an eminent Phyſician, or ſuch an Author preſcribed them in ſuch a Diſeaſe with great Succeſs, and has not the ſame Indications, ſuch Practice is *Empirical*, or no better than Quacking.

The *real Phyſician* preſcribes ſuch a Method, and ſuch Medicines, becauſe he knows the Diſeaſe, its Cauſe, what Ways and Means Nature indicates, and by what critical Evacuation ſhe endeavours and intends to carry the Diſeaſe and its Cauſe off; and by juſt Reaſoning from thence, knows when, and how he ſhould aſſiſt her to effect that.

The *Empirick* preſcribes ſuch a Medicine, and ſuch a Method, becauſe ſuch an Author,

thor, or ſuch a Phyſician, or himſelf, has known that Medicine cure ſuch a Fever, or ſuch a Diſeaſe, without either knowing its Cauſe, or the true Intentions and Indications of *Nature*, in any of thoſe Diſeaſes; and as both the Cauſe, the Manner of the Production of the Diſeaſe, and the Indications of Nature, are often found to be very different, even in the ſame Diſeaſe; and when their Cauſes, as well as the Conſtitutions of the Sick, are ſo different, he muſt frequently fail in his Succeſs; but if he chances to ſucceed, eſpecially in giving that Medicine to ſeveral Patients, he grows ſo fond of it, that it becomes his favourite Medicine, and he preſcribes it almoſt in all Caſes and Conſtitutions, and too often where there are no Indications for it, and ſometimes where the Indications are directly againſt the giving it, and where it muſt be injurious; though he does not ſee this, becauſe he preſcribes it without truly Reaſoning from its Cauſes to its Effects, or its true Indications, *viz.* empirically, or by gueſs: Hence we ſee ſome become ſo fond of ſome particular Medicine or another, that they *Empirically* give it almoſt in every Caſe, and ſo it ſoon becomes faſhionable.

The Quack gives his Medicine, or Medicines if he has more than one, without either knowing the Diſeaſe, its Cauſe, or any rational Method of curing any Diſeaſe,

or

or without knowing any thing of Nature, or her Indications, or becauſe he neither knows, nor has any other Medicines, and ſometimes chances to cure, and ſometimes kills.

I have ſaid before, that all the Knowledge that we have of the Operations and Effects of Medicines, is ſolely from Obſervation and Experience, and all the Improvements therein have been obtained by the ſame Means; but the proper Times, and the Manner of adminiſtring them, has been known and improved, by juſt Reaſoning from accurate Obſervations and Experiments. Becauſe all that we do, or can know of Matter, and its different Appearances, Modes of moving and acting, and all the various Effects which it produces, are only known by Obſervation and Experiments; ſince neither Seeing, Smelling, Taſting, or any of our Senſes, can certainly inform us, *a priori,* what Effect any Medicine will produce, when it is taken into the Body; our Senſes cannot inform us why, or whether *Ipocacuanha* will vomit, or *Jalap* purge; or why any other Medicine will produce any other Effect: This is, and only can be known by Obſervation and Experience, and not by Reaſoning either geometrically, or mechanically, from the Structure or Figure of their ultimate component elementary Particles, as ſome

Phyſicians have pretended, and vainly attempted to explain. Our ſo much boaſted-of Knowledge of *Matter* and *Nature*, is at the beſt but very imperfect, and we are totally ignorant of the Compoſition, Formation, and Figure of the ultimate elementary Particles of all Bodies, and all *Matter*, and the internal Eſſences of Things; all that we know of them, is ſolely from their external Appearances, and from Obſervation and Experiments, on the ſenſible Effects which they produce; and all that we know of *Nature*, is only by Obſervation and Experience on the Effects which ſhe produces. Yet this experimental Knowledge of *Matter* and *Nature*, or ſo much as we are capable of knowing of them, by Obſervation and Experiments, if properly purſued, is ſufficient, and aptly fitted in a ſuitable Degree to our preſent Condition in this Life; and if rightly applied, may anſwer all the reaſonable and neceſſary Ends of our Preſervation and Well-being; if Men would but diligently apply their Abilities and Endeavours to diſcover all ſuch Things as are neceſſary and uſeful, and which may be known by the human Mind, and may be applied to the Benefit and real Advantage and Good of Mankind; and not vainly attempt to diſcover, and know thoſe Things which are of an infinite Nature, or are placed above the Reach of human Powers, and beyond the utmoſt Extent of the Power of the human Mind, which is Finite, and cannot comprehend an Infinite; and if they were known, could neither be beneficial to Mankind, nor any way contribute to their Well-being: Thus Men may improve uſeful Knowledge, and contribute ſomething almoſt continually to the Good and Well-being of Mankind.

And ſeeing that all that we know of Matter, and the ſeveral different Kinds of it, which the *Materia Medica* is compoſed of, and all the Knowledge that we have of their Virtues, Uſes, Operations, and Effects, is ſolely obtained by Obſervation and Experience: (I have ſaid the ſeveral Kinds of Matter, though I know it is the common received philoſophical Opinion, that the ultimate Elements of all Matter, and all Bodies whatever, are the ſame, and that Bodies only differ one from another, in the different Figures, Degrees of Contact and Coheſion, Condenſation, and Rarefaction, *&c.* of their conſtituent elementary Particles: But if we ſtrictly inquire into the Grounds and Reaſon of that Opinion, we ſhall find that it is only hypothetical; and that there are more Arguments and ſubſtantial Reaſons for us to ſuppoſe, that INFINITE POWER has given Exiſtence to ſeveral different Kinds of Matter, if not to as many different Species of Matter, as HE has to different Kinds of Bodies, and different Things; yet has ſubjected them all to the ſame *Laws of Motion*, (if we except *Fire*, and peradventure *Light*); as, to Vegetables, Animals, a great Variety of different Metals and Foſſils; alſo the Elements of Air, Water, Light, and Fire, which appear to be of very different Natures, and have different Properties, and produce very different Effects, when they are tried by many Experiments.) And as all the Knowledge that we have of Matter, is ſolely by Obſervation and Experiments; and as theſe all ſhew us ſuch different Appearances, Properties, Natures, and Effects from each other, when tried by various Examinations and Experiments, we have many more Reaſons to conclude, that they are compoſed and formed of different Species of Matter, than we have, that they are all compoſed of the ſame Sort of Matter, as it is equally as poſſible that the INFINITE BEING has given Exiſtence to ſeveral different Species of Matter, as to ſeveral different Species of many other Beings. But let us return to the Subject we are treating upon.

Although all the Knowledge that we have of the Virtues, Operations, and Effects of all the Medicines contained in the *Materia Medica*, has been firſt obtained by Obſervations and Experience; yet the true Knowledge of Diſeaſes, their Cauſes, and the true Intentions of curing them, as well as when, how, and at what Times of thoſe Diſeaſes any of thoſe Medicines are indicated, and ſhould be given, or applied, can only be truly known by accurate Obſervations, certain Experience, and true inductive mechanical Reaſoning from real Facts, and conformably to Nature, and what ſhe indicates and does; and in knowing, and doing this truly, is contained the true Knowledge of the *medical Art*, and the Abilities of the Phyſician, and is what will always diſtinguiſh the *real* from the *nominal Phyſician*, as *Hippocrates* ſays.

But although we may thus truly know Diſeaſes, and the right Intentions of curing them; and that all our Knowledge of the Natures, Operations, Virtues, and Effects of all Medicines, has been all obtained by Obſervation and Experience only, or from Authors who had obtained that Knowledge of them by thoſe Means before, and not by Reaſoning, as it can have no Place therein; yet both Reaſoning and Analogy may aſſiſt to inform us how and when to give them, in new and ſimilar Caſes: But as moſt, if not all Diſeaſes, may ſometimes be ſo violent and great, that the moſt able Phyſician and moſt powerful Medicines cannot cure them; therefore in that Caſe he can do no more than predict that, and the Death of the Patient, ſince all Men muſt die at ſome time.

What the *Materia Medica* of the firſt Ages was, we are totally ignorant of it; but as their Diſeaſes were ſimple and few, we muſt ſuppoſe that their Remedies were ſo alſo; eſpecially from the firſt Riſe of the ART, if it may be ſo called at that time, down to the time of *Æſculapius*; or from his time down to that of *Hippocrates*, as we have no Records left us to inform us what it was. For as to the ancient Stories of the *Hipopotamus* ſhewing Men how to bleed, by Bleeding himſelf with a ſharp pointed Reed, when he was Sick; or the Bird *Ibis* giving himſelf a Clyſter of Salt-water with his Bill; or that of King *Prætus*'s Daughters being cured of a *Mania*, by drinking the Milk of Goats fed with *Helebore*, and ſuch like Stories, they merit not much Credit, though they may ſhew the great Antiquity of the Uſe of Bleeding: But if any Perſon, in any of the Branches of the Profeſſion, will be ſo over fond of Antiquity, that he will have them to be true, I will not diſpute it with him, but allow him to think, that the *Hipopotamus* was the firſt *Surgeon* that let Blood, and the *Ibis* the firſt *Apothecary* that gave a Clyſter: It might poſſibly be ſo, ſince we ſee the great Sagacity of Brutes and Inſects, or their Inſtinct, (or rather their Reaſon) which is in many Caſes very extraordinary; as in Dogs, whoſe Appetites are ſometimes voracious, and when they cannot digeſt it, and are Sick, readily go and ſeek out the Dogs-graſs, and eat it, without being taught, or directed to it; which is an Emetick to, and quickly cures them; and the ſame Sagacity may be obſerved in ſome other Beaſts, Reptiles, and Inſects, if we do but more attentively obſerve them.

How much that *Father of Phyſick, Hippocrates,* improved the *Materia Medica* of the *Ancients,* and whether as much as *he* did the *Theory and Practice of Phyſick,* we cannot tell, becauſe we know not what theirs was before *his* Time. But if we compare the Number of Medicines and Simples[a], which were uſed by *Hippocrates,* with thoſe made uſe of in the ſucceeding Ages, we ſhall find that they were but a few, in compariſon with thoſe which they had, or which we now have in moſt of our *Diſpenſatories*; yet by his duly obſerving, and truly knowing Diſeaſes, and their Cauſes, and the Indications of *Nature,* and properly applying thoſe few Medicines and Simples which *he* had, when, and only when, they were truly indicated, *he* performed as great, if not greater Cures, than moſt of his Succeſſors have done ſince.

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[a] Vide Dr. Le Clerc. Hiſt. de la Medicin. p. 217, &c.

If we only compare the Number of the Simples and Medicines, which are mentioned in the Works of *Hippocrates*, with thoſe which are in the Works of *Dioſcorides* and *Galen*, who lived about five hundred Years after *him*, we ſhall find, that the Number uſed by them, was conſiderably increaſed in that time; beſides ſeveral of their long and tedious great Compoſitions, in their *Theriaca's*, and other *Antidotes*, as they called them; by which they had greatly increaſed, and in ſome Reſpects improved the *Materia Medica:* But *Celſus* more ſtrictly followed the *Hippocratick Method of Practice*, than moſt of the *Greek Phyſicians* did, if we except *Aretæus Cappadox*; and if we examine the *Eupariſton of Diaſcorides*, or the *Materia Medica* of *Galen*, we meet with ſeveral both ſimple and compound Medicines, which were not known to *Hippocrates*, moſt of which are in Uſe at this time.

But as *he*, and ſome of the other *ancient Greek Phyſicians*, who were the Inventors of the *medical Art*, have made ſo many conſiderable Improvements therein, all future Ages after them were greatly obliged to them for their ſo doing.

We muſt, for Truth's ſake, alſo obſerve, that moſt of the *Greek Phyſicians* gave ſome of their moſt active Medicines, eſpecially ſeveral of the *ſtronger draſtick Purgatives*, in ſuch large Doſes, as would be attended with very bad Conſequences now, if they were not ſo then, (unleſs there be ſome Difference in the manner of preparing them now) as in the Doſe of the *White Hellebore*, *Elaterium*, and ſome others. And the *Greeks* firſt introduced the Uſe of the *hot Alexipharmick Medicines* into Practice, which are in ſome particular Caſes, of great Service; but are greatly hurtful where the Fever is too high, or where any Degree of Inflammation attends; and their Uſe has been much abuſed by many of their Succeſſors, and are at this time too often ſo uſed. So that we may juſtly doubt whether *Andromachus*, *Galen*, and ſome others, did not do more Injury to the *medical Art*, by introducing thoſe heating, inflaming, and immoderate great Compoſitions into Practice, than Service by it; ſeveral of whoſe numerous Ingredients are of a direct contrary Nature, to what ſome others of them are; as in the *Theriaca*, which contains above eighty different Ingredients, and the *Mithridate* almoſt as many; and their Doſe is from a Scruple to a Drachm, which is not a Grain of each, one with another; conſequently, if moſt of the Ingredients were ever ſo efficacious, they could have little or no Effect, except the Opium, when given in ſuch inſignificant Quantities, and moſt of thoſe which are of the ſame Nature are heating and inflaming; wherefore as they are generally uſed, they are more injurious than they are beneficial; and that *Galen* did more Injury to the *Art*, by introducing his imaginary *hypothetical Theory*, than he did Service other ways, cannot be doubted, as he thereby led Phyſicians from purſuing the *Hippocratick Method*, by which it might have been greatly improved.

And although the *Arabians* made no Improvements either in *Anatomy*, or in the *Theory of Phyſick*, as they chiefly followed *Galen* in both, and generally took what he ſaid therein, as far as it was intelligible, for Truth; yet they made ſeveral uſeful and great Improvements in the *Materia Medica*, (as well as in giving us an Account of ſeveral *new Diſeaſes*, and the Methods of curing them.) And if we collect and compare the various Medicines which were uſed by *Mohamed Rhazis*, *Haly Abbas*, and *Avicenna*, with thoſe which were uſed by *Galen* and the other *Greek Phyſicians*; or the *Materia Medica* of *Meſue* of *Damaſcus*, with that of *Dioſcorides* of *Anazerba*, we find many Medicines in them, which were unknown to the *Greeks*; as moſt of the *Eccoprotick*, and *cooling Purgatives*, ſuch as the *Caſſia Fiſtula*, *Tamerinds*, *Myrobalans*, the two Sorts of Manna, that which is produced from a peculiar Kind of Aſh-tree, called by the *Arabians* مَن, *Men*, now in uſe; and the *liquid Manna*, produced from a Tree with an Oak-leaf, in *Perſia*, called ترنجبين, *Tereniabin*, which is not much uſed now; alſo *Sena*, *Tartar*, and the *Ravedſeni*, *Rhabarbarum*, or *Rha* of *China*, ſo called to diſtinguiſh it from *Rha-ponticum*, which was uſed by the *Greeks* before; alſo *Muſk*, *Camphor*, *Civit*, *Gum Aſſa-Fœtida*, *Ammoniacum*, *Lacea*, *Bdellium*, *Olibanum*, *Arabicum*, *Sagapenum*, and *Euphorbium*, though the laſt is ſaid to have been firſt diſcovered by *King Juba* in *Africa*, who called it, and the Plant which produces it, *Euphorbium*, after his Phyſician's Name *Euphorbus*; likewiſe ſeveral of the moſt valuable and uſeful *Spices*, which from their pleaſant Flavour, agreeable Taſte and Uſefulneſs, are now much introduced into our Diet; as *Nutmegs*, *Mace*, and *Cloves*; alſo *Ginger*, *Zedoary*, *Galangal*, *Zerumbith*, and *Turmerack*, and ſome others, which are now brought from the *Eaſt-Indies*, and uſed in Medicine. They alſo firſt introduced the *chemical Art*, and *chemical Medicines* into *Practice*; and invented ſeveral of the *chemical Inſtruments* and *Veſſels*; as the Uſe of *Mercury*, and ſome *chemical Preparations* and *Sublimations* from it, though they chiefly uſed it, and them externally, in *Amalgamas*, *Plaſters*, and *Unctions*; likewiſe ſeveral Preparations from various *Metals*, *Vegetables*, Parts of *Animals*,

Animals, &c. ſuch as ſeveral Sorts of *Salts*, both *fixed*, *Alkaline* and *Volatile*; and the Art of *diſtilling Waters*, *Spirits*, and *Oils*; the Method of extracting *Tinctures*, *Elixirs*, and the Method of preparing a great Variety of ſeveral Sorts of *Oils*, both by Diſtillation, Expreſſion, and Decoction, many of which are not now uſed. They alſo firſt invented and introduced the Uſe of *Sugar in Medicine*, with which they made various *Syrups*, *Conſerves*, *Condits*, *Quidanes*, and *Robs*, by which they greatly increaſed the Number of Medicines, and much improved the *Materia Medica*; and notwithſtanding that ſome modern learned Authors have blamed them ſo much for introducing the Method of too much compounding their Medicines, they certainly learned that from the *Greeks*; for although ſeveral of their Compoſitions do contain too many Ingredients, yet they have none of their own which have near ſo many in them, as the *Theriaca*, *Mithridate*, *Philoniums*, and ſome of the *Antidotes* of the *Greeks* have; though it muſt be allowed, that both the more modern *Greeks* and *Arabians* compounded ſeveral of their Medicines a great deal too much. However, we are greatly obliged to the *Arabians* for their inventing ſo many valuable and uſeful Medicines, and for their ſo much improving the *Materia Medica*, as well as for their rendering Medicines more grateful and pleaſant: And although the *Arabians* (or *Saracens*, as they were called in *Europe)* had little Learning amongſt them, when they firſt began to make a Figure in the World, as a warlike People; yet they ſoon after began to encourage *Learning*, and to cultivate the *Sciences*, particularly *Phyſick*, *Philoſophy*, *Chemiſtry*, *Mathematicks*, and *Aſtronomy*, in the *Eaſt*; and as they conquered the greateſt Part of *Spain* in the eighth Century, ſo they not long after brought the Knowledge of all thoſe *Sciences* thither, where they were but little known in any of the *Gothick* Dominions before; and in the eleventh Century they founded an *Academy* at *Corduba*, where they were all taught and ſtudied, and where ſome time after thoſe *two ſubtile Philoſophers* and *eminent Phyſicians*, *Averrhoes* and *Avenzoher*, both practiſed and taught the *medical Art*. Here Learning, which had been baniſhed out of *Europe* ſeveral Centuries before, began to revive among the *Arabians*, who brought it out of the *Eaſt* into *Europe* again; and ſome Centuries after it began to revive among the *Chriſtians*, eſpecially at *Salernum* in *Italy*, and ſlowly after that to ſpread into other Parts, as before obſerved. But as the little Learning that was then left in *Europe*, was ingroſſed by the *Prieſts* and *Monks*, who kept the *Laity* as much in Ignorance as they could, (and even they had but very little themſelves), its Progreſs was very ſlow, and conſequently no Improvements were made, either in the *Theory* or *Practice of Phyſick*, or in *Pharmacy*, or in any of the *Sciences*, till in the ſixteenth Century; neither could any be expected from them in that time of Ignorance.

But the *Art of Printing* being invented, and the *Reformation* brought on, Men began to acquire ſome Learning, and ſoon after to cultivate the *Sciences*, and eſpecially *Phyſick*, *Anatomy*, and *Chemiſtry*; and the *Arabians* having brought theſe *Arts* out of the *Eaſt* into *Spain*, and the *chemical Art* being a new thing, was much admired, and ſoon became greatly in vogue, and was much cultivated ſoon after in ſeveral Parts of *Europe*, more eſpecially in ſome Parts of *Germany*; and various uſeful and valuable Medicines were diſcovered and introduced into the *Practice of Phyſick*: And notwithſtanding that ſeveral of our firſt *European Chemiſts* were Men of ſuch a Turn of Genius, and ſuch vain boaſting Enthuſiaſts, as before obſerved, yet we muſt allow, that they diſcovered many uſeful Medicines, which when they came into judicious Hands, who experienced their Virtues and Effects, and knew how and when to preſcribe them properly, they found them to be the moſt efficacious Medicines that they then had, or we now have in curing ſeveral Diſeaſes;

eſpecially

eſpecially the *Venereal,* and ſome other Diſeaſes: This firſt was then a new Diſeaſe, and had often evaded the moſt powerful Effects of their moſt efficacious *Galenical Medicines,* which were the only Medicines in Uſe before the Chemiſts invented and introduced their *chemical Medicines,* which ſoon were found to be much more efficacious and ſucceſsful in curing that Diſeaſe, as well as ſome others; eſpecially by *Mercury,* and ſome of the *chemical Preparations* from it: And it has been found ſince, that ſome other Diſeaſes, which are no leſs difficult to be cured, or that have been before deemed incurable, yet when taken in time, have been cured by *Antimony* and the *Chemical Preparations* from it. So likewiſe the *Chemical Art* has ſince been ſo much improved, that various *Preparations,* both from *Steel,* and ſome other *Metals,* and various *Salts,* from mineral, vegetable, and animal Bodies, and many other chemical Medicines, well known to Phyſicians, and to the Apothecaries alſo, which are too numerous to be mentioned here, whoſe Virtues and Uſes are as well known, whereby the *Materia Medica* has been very much improved, and very greatly increaſed.

The *Botanical Art* has alſo ſupplied the *Materia Medica* with a great Variety of Articles, which have both much increaſed, and in ſome reſpects very conſiderably improved

proved it; and ſeveral very valuable and efficacious Medicines have been diſcovered, and their Uſes greatly improved by the Obſervations of ſeveral judicious Phyſicians made on them, and the good Effects which they have produced, when they were properly adminiſtred: And it is well known that there are ſeveral Plants, Flowers, Seeds, Roots, and various Gums, Reſins, and the Barks of ſeveral Trees, which are endowed with extraordinary medicinal Virtues, which have been diſcovered by Obſervation, and known by Experience, in diſtant and different Ages: And it muſt alſo be confeſſed, that ſeveral of each of theſe have alſo been introduced into Practice, and ſome conſiderable Virtues and Uſes have been aſcribed to ſome of them, which are either very weak, or wholly ſuppoſititious and imaginary, and have only ſerved to increaſe the Bulk of the *Materia Medica*, without adding any thing really uſeful to it; therefore it is wiſhed, that all ſuch weak and inſignificant Things were intirely rejected out of our Diſpenſatories.

The *Arts and Sciences* being now cultivated, that of *Navigation* was greatly improved, and the *Europeans* ſoon after that, found out the Way to both the *Eaſt* and *Weſt-Indies*, and diſcovered *America*, and the South Parts of *Africa*; from all which many uſeful Drugs are now much more eaſily obtained than they were before, by Carriage over the Land: Such as *Camphor*, *Muſk*, *Civit*, *Ambergreaſe*, and many rich *Aromatick Spices*, as *Cinnamon*, *Nutmegs*, *Mace*, *Cloves*, *Cardamom Seeds*, *Caſſumunar*, *Zedoary*, *Galangal*, &c. alſo *Gum Galbanum*, *Gambogia*, *Aſſa-Fœtida*, *Ammoniacum*, *Tragacantha*, *Arabicum*, *Sagapenum*, *Soccotorine Aloes*, and ſome other Drugs, which are all brought from *Arabia*, *Perſia*, and the *Eaſt-Indies*.

And by our Commerce with *America* and the *Weſt-Indies*, we have ſeveral valuable Drugs and efficacious Medicines brought from thence; as the *Cortex Peruviana*, *Winterani* or *Canella Alba*, *Elatherii*, *Lignum Saſſafras*, *Guajacum*; *Rad. Ipocacuanha*, *Sarſaparilla*, *Jallapii*, *Serpent. Virginianæ*, *Poligulæ Virgin. Contrayervæ*, *Chinæ*, *Gum Guajac. Elemi*, *Tacamahaca*, and ſome other Drugs; ſeveral of which are very valuable and efficacious Medicines, when judiciouſly and properly adminiſtred; although we had the firſt Knowledge of theſe laſt, and of ſome of their Virtues and medical Uſes from the *Indians*, who had obtained their Knowledge of ſome of the Virtues and Uſes of ſome of them by Obſervation and Experience, before the *Europeans* came thither; and what Knowledge they had ſo obtained, they communicated to the *Europeans*.

From what we have ſaid before it appears, that all the Knowledge that we have of the Virtues, Operations, and Effects, which all Plants, Drugs, and all Medicines that we yet know, have in and upon the human Body, has been all obtained by Obſervation and Experience; neither does the human Mind ſeem capable of acquiring that Knowledge by any other Means; although we may greatly improve that Knowledge, both in the Uſe, the Times, and the Manner of applying thoſe Medicines, whoſe Operations and Effects are thus known, both by the Aſſiſtance of a juſt Analogy, and the right Uſe and Application of true inductive mechanical Reaſoning, from Obſervations on *Diſeaſes* and *Nature*, and what ſhe indicates and really does; if we always carefully keep that Reaſoning ſtrictly conformable to *Nature*, and her Operations, and confirm the Truth of its being ſo conformable, by further Obſervation and Experience, before we receive their Inductions and Concluſions as eſtabliſhed Truths.

It was thus that the firſt Knowledge of the Virtues and Uſes of any medicinal Plants, or Medicines, were obtained in the firſt Ages of the World, and that Knowledge was preſerved and communicated to others by Tradition; and afterwards by the *Prieſts* of *Æſculapius* in *Greece*, before the time of *Hippocrates*; and by the *Gymnoſo-*

phiſtæ, or *Brachmans* in the *Eaſt*, and the *Druids* in the *Weſtern* Nations; and by the *Jongleurs* and *Pawawers* among the *American Indians*, and the *Obia-Men* among the *Negroes*, who are their Wiſe Men, Prieſts, and Phyſicians, who ſtill practiſe in that empirical Manner in their Countries, and ſome perform notable Cures, which preſerves their Reputation among their own Country-people.

Theſe *Indian* and *Negro* Practitioners communicated what Knowledge they had of the Uſes and Effects of the above-mentioned Medicines, and their Manner of uſing them, to the *Europeans*, after they came into their Countries: And when thoſe *Indian Medicines* were brought into *Europe*, the *European* Phyſicians, finding by Experience that they had thoſe good Effects which the *Indians* aſcribed to them, and were efficacious in curing thoſe Diſeaſes which they ſaid they would cure, *viz.* the *Bark* cured intermitting Fevers; *Ipocacuanha* Diarrhöeas and Dyſenteries; the *Sarſaparilla* in ſome Caſes in the Lues Venerea, *&c.* And the *European Phyſicians* having a much ſuperior Knowledge of the Nature and Cauſes of Diſeaſes, and a more perfect Theory and rational Method of curing them, they not only uſed thoſe Medicines at the firſt, as the *Indians* uſed them, but they greatly improved both the Methods of giving thoſe *Indian Medicines,* ſo as to render them more ſucceſsful in curing thoſe Diſeaſes, which the *Indians* had uſually cured with them; but by Analogy, and the Aſſiſtance of true inductive mechanical Reaſoning, they were enabled to apply them more ſucceſsfully to cure ſeveral other Diſeaſes, which the *Indians* either had not, or did not know how to cure with them; ſo that the Knowledge of their *medicinal Virtues* and Uſes has been greatly improved ſince their Importation into *Europe,* by which ſome of them are known to be of the greateſt Service in the Cure of ſeveral other Diſeaſes, and that more ſucceſsfully than they were by any Medicines which we had before. And by the Addition of theſe uſeful Drugs and valuable Medicines, the *Materia Medica* has been much increaſed and improved.

Thus we have endeavoured to trace out and diſcover the Means by which all medicinal Knowledge has been obtained in all Ages, and how it has been improved both in its *Theory* and *Practice,* as well as how our Knowledge of the Virtues, Uſes, and Operations of Medicines, has been obtained, and how all theſe have been by ſlow Degrees improved in different Ages; alſo how our preſent *Materia Medica* has been augmented, and brought to that great Bulk which it is now arrived to, in compariſon of what it was in the Days of *Hippocrates*; firſt by the *Greek Phyſicians*, more eſpecially by *Dioſcorides* and *Galen*; and then by the *Arabian Phyſicians*, who it muſt be allowed have diſcovered and introduced a great Number of very uſeful and moſt valuable Medicines, eſpecially thoſe of the *antiphlogiſtick Kind*, into the *Practice of Phyſick*, by which both the *medical Art*, and the *Materia Medica*, have been greatly improved: Alſo what great Improvements both theſe have received, by the Labours and great Diſcoveries of the *Chemiſts*, and ſeveral from thoſe of the *Botaniſts*; more eſpecially ſince our Communication and Commerce with the *Indians*, in both the *Eaſt* and *Weſt-Indies*, from whence we now have ſeveral of our moſt uſeful and moſt valuable and efficacious Medicines, by which our *Materia Medica* has been greatly enriched and improved.

But we muſt, for Truth's ſake, alſo obſerve, that notwithſtanding that ſome of the *Chemiſts* and *Botaniſts* have invented and diſcovered ſeveral of the beſt and moſt efficacious Medicines that we now have in the *Materia Medica*, or in our *Practice*, yet it muſt be allowed, that ſome others of the *Chemiſts*, and alſo the *Botaniſts*, have too often aſcribed ſuch extraordinary Virtues and Effects, to ſeveral of their *chemical Preparations*, and to many of their *Plants*, and their *Productions,* as they never were poſſeſſed of; and too often, from too great a Fondneſs for their imaginary Diſcoveries, they have attributed ſome great Virtues to ſeveral of them, which upon a more ſtrict Examination have been found to be ſo weak, as to be mere Inſignificants, and ſome others to have no ſuch Virtues at all; whereby the *Materia Medica* has been ſo much increaſed in its Number of Materials, and in its Bulk, that it is now become as much ſuperfluous, and unneceſſarily incumbered and troubleſome, as it was deficient in the time of the *Greek Phyſicians:* And we may not only with Safety, but with conſiderable Advantage expunge half, if not Two-thirds of the *Plants,* and a great many *Drugs,* and *chemical Medicines,* which are now contained in moſt of the *Diſpenſatories;* eſpecially all thoſe whoſe medicinal Virtues are ſo weak, as to be either very uncertain whether they have any, or are known to be mere Inſignificants: And we may practiſe with greater Certainty and more Succeſs, with the remaining Part, if we do but chooſe ſuch of them whoſe medicinal Virtues and Effects are certainly known, and properly time, and judiciouſly preſcribe them, when and where, and only when and where they are indicated by *Nature;* for it is neither our having, nor giving a Multitude of Medicines, that makes our Practice the moſt ſucceſsful, but our certainly knowing the Diſeaſe, its Cauſe, and how and when we ſhould aſſiſt *Nature* to carry it intirely off, and cure it; and to know when it is not in the Power of Medicines, or the Art to do that, that makes the judicious and able, as well as the ſucceſsful Phyſician.

And notwithſtanding that the late learned Members of our *College of Phyſicians*, as well as thoſe of ſome other Countries, did ſome Years ſince conſiderably *reform* their *Diſpenſatories*, yet it is humbly apprehended, that they may be ſtill farther *reformed*, as they yet retain ſeveral *Plants*, and ſome *Drugs*, as well as ſeveral *chemical Preparations*, whoſe Operations and Effects are ſo weak and uncertain (eſpecially where we have others of the ſame Nature, which are more certain) and more efficacious; and there are others, whoſe Virtues are more imaginary than real, and ſome that are mere Inſignificants; likewiſe ſome *Galenical* Compoſitions, which are compounded of ſuch a Multitude of different Ingredients, and by reaſon of the *Opium* which they contain, can but be given in ſuch ſmall Doſes, that how efficacious ſoever moſt of the other Ingredients may be, in ſuch Doſes can have no Effect.

Wherefore, if all ſuch were exchanged, for others that are much leſs compounded, and of the ſame Nature, they would anſwer the ſame Intentions as well, or much better; and if all thoſe, who are ſo weak and uncertain, together with the whole Tribe of Inſignificants, were intirely expunged out of all the *Diſpenſatories*, and the Apothecaries Shops alſo, it would render them more conciſe, elegant, uſeful, and more beneficial to Mankind; as the retaining all ſuch imaginary, weak, uncertain, and inſignificant Medicines there, only ſerve to unneceſſarily Burden the Memory of the young Phyſician, and to give the Apothecaries the Trouble of procuring and preparing them; and when ſo prepared, only ſerve to load the weak Stomachs of the Sick; or what is worſe, when too many of thoſe Inſignificants are contained in a Compoſition, or introduced into a Preſcription, they diminiſh the Doſe, and ſo leſſen or hinder the Operation and good Effects of thoſe Medicines, or Ingredients, which are more efficacious; or if thoſe Inſignificants are given alone, they muſt fail in producing thoſe deſired Effects, when more efficacious Medicines would anſwer the Intention, and carry off the Diſeaſe: And as it was the Cuſtom and Faſhion, formerly, for both the chemical and botanical Phyſicians to extol and ſay too many extravagant fine Things on the Virtues of thoſe inſignificant weak Plants, Drugs, and Medicines, which they wrote upon; and as they are ſtill retained in ſome Diſpenſatories, that Authority too often has induced not only the Young, but ſome other Phyſicians, to take them into their Preſcriptions: Hence we ſometimes ſee not only ſo many contradictory Ingredients, but too often ſo many of thoſe Inſignificants contained in a Preſcription, that if *Hippocrates*, or *Æſculapius* himſelf, were to ſee it, they could not tell what Diſeaſe it was intended for.

And it is well known, that the more able, experienced, and judicious Phyſicians, neither depend upon, nor even preſcribe thoſe Inſignificants; therefore I can ſee no Reaſon why they ſhould not be expunged out of our Diſpenſatories, and the Practice alſo.

And as we are upon this Subject, it may not be improper to make a few more Remarks upon the faſhionable Method of giving ſeveral valuable Medicines in trifling ſmall Doſes: It was the uſual Cuſtom to give that efficacious Medicine *Muſk*, in ſuch inſignificant Quantities, that except in its Smell, it could have little or no Effect, as in Dr. *Fuller*'s *Julep. Moſchat.* till the *Chineſe* Method of giving it in the Quantity of a *Scruple* taught us better; and the ſame may be ſaid of ſeveral other efficacious Medicines; as, *Sal. Succini*, *Camphor*, *Caſtor*, *Borax*, &c. and ſeveral of the *medicinal Salts*. How frequently do we ſee theſe preſcribed in ſuch trifling inſignificant Doſes, that they can have little or no Effect; yet we ſee, that when they are given in ſufficient Quantities, they are found to be very valuable and efficacious Medicines, when they are judiciouſly and properly adapted to the Diſeaſe and its Cauſe.

The little Effect which they have, when ſo given, has induced ſome Phyſicians to ſuppoſe, that moſt of the medicinal Salts are of little or no Service in the Cure of moſt of the Diſeaſes, for which they are preſcribed; and no wonder, as they are uſually given in ſuch trifling Doſes, that they can have little or no Effect; what can we expect from ſix, eight, ten, or twenty Grains of Sal Nitre, being mixed with the whole Maſs of Blood, which is more than 40 Pounds, when it is in a violent inflammatory ſizy State, unleſs we expect Miracles? That all Salts, and moſt ſaline Medicines, do more effectually diſſolve in an aqueous Fluid, than any other Medicines do, is evident; and that they paſs leſs changed in their Nature into the Maſs of Blood, or Fluids, (except ſuch as ſtimulate the Primæ Viæ, and produce a Vomiting, or Purging; as, *Sal Vitrioli, Vitriol Alb. Cath. Glaub.* &c.) and produce their proper Effects upon the Fluids more certainly and effectually than moſt, if not any other Medicines that we have do; and they even paſs off again leſs changed in their Nature, by *Urine*, *Saliva*, and *Sweat*, than the others are; and they produce their proper Effects upon the Fluids, when properly adapted to the Cure of the Diſeaſe, more effectually than moſt other alterative Medicines do. And we find, both by Reaſon and Experience, that *purified Nitre*, and *purified Crude Salt Ammoniac*, are the moſt powerful *antiphlogiſtick Medicines* that we have, when properly given in ſuitable Quantities, and are more cooling than any other Medicines in inflammatory Diſeaſes, and at the ſame time attenuate the viſcid ſizy Blood more effectually; Ice may be formed or generated with them, and *Spirit of Nitre* in Summer; and *Crude Sal Ammon.* will ſooner attenuate and diſſolve the inflammatory ſizy Buff-like Pellicle, which is frequently ſeen on the Surface of the extracted Blood, in inflammatory Diſeaſes, than either *Sal vel Spir. C. C. vel Spir. Sal. Ammoniac Vol.* will; and theſe laſt heat much, and often increaſe the Inflammation, eſpecially in the Beginning of thoſe Diſeaſes; though they are ſometimes neceſſary in the latter End of them, when the Patient and his Pulſe are rather too low.

Dr. *Sydenham* ſometimes gave the *Sal prunel.* to the Quantity of a ʒi for a Doſe; and I have given as much of it with *Crude Sal Ammon. pur. gr.* xii. or *gr.* xv. in a Draught of *Decoct. pectoral.* every Hour, the firſt eight Hours, and every two Hours for 24 Hours after; and thereby (and by taking away ℥xxiv of Blood at once) have taken off and cured a violent inflammatory Pleuriſy, in the Space of 36 Hours.

Hunger is a Diſeaſe that is certainly fatal, and an Ounce of Meat and Bread a Day will not cure it, but a Pound, repeated at proper times, will cure it.

Muſk, *Camphor*, *Sal Succini Vol.* *Caſtor*, *Borax*, *Crude Sal Ammoniac*, and *Myrrh*, are all very valuable and efficacious Medicines, when rightly timed, and given in proper Quantities: The five firſt are uſually given from *gr.* ii. to *gr.* vi. and little or no Effect is produced by, or can be expected from them; yet any of them may be given, when properly adapted to the Diſeaſe, to the Quantity of a Scruple, and ſome of them to more than that. I was called to a young Woman, who had taken *Catharid. pulv.* ʒii three or four Hours before I got there; I gave her ſome *Ol. Olivar.* with a ſtrong *Decoct. of Fol. Altheæ*, mixed with Milk, with which ſhe vomited three or four times; and as a deſperate Caſe muſt have a ſtrong Remedy, I gave her *Camphor pulv.* ℈i *Conſ. Cynoſb. q. ſ. m.* and increaſed the Quantity of the *Camph.* to ℈ii; at firſt every three, and then every ſix Hours, till ſhe had taken three Doſes of the firſt, and four of the laſt; ſhe drank the above Decoction with it, and frequently in the Intervals, and perfectly recovered. *Sal Succini* is uſually given from *gr.* ii. to *gr.* vii. which can have little or no Effect, but its diſagreeable Taſte; but when given from a ℈i to ℈ii. is a pretty good Diuretick; and *Borax* given to the Quantity of a ℈i is an Emenagogue; and ſo is *Caſtor*, and an *Antihyſterick*; and *Myrrh* is a Sovereign *Antiſeptick*, and an excellent *Balſamick*, and by theſe Means heals moſt internal Ulcers: It is alſo called an *Emenagogue*.

There are ſeveral other Medicines, which are not to be eſteemed Inſignificants, but are rendered ſo, by being given in ſuch a compounded Manner, with thoſe that are ſo, or are given in ſuch ſmall Doſes, as to be rendered ſo.

Every able Phyſician will eaſily ſee, that I do not, in any of theſe, intend to comprehend any of the more powerful and more active Medicines, whoſe Doſes are very well known; ſuch as *Mercury*, *Antimony*, and the ſeveral *Preparations* from them; alſo moſt of the *Emeticks*, *Cathartics*, *Opiates*, *Sudorificks*, and ſome others, whoſe Doſes are aſcertained, and very well known to Phyſicians; both when they intend them to operate more briſkly, and when to act more ſlowly, as Alteratives; as it is well known, that ſeveral of thoſe more active Medicines, when they are given in ſmall

Doſes, are found to be the moſt powerful, and the moſt efficacious Alteratives, that we have in all our *Materia Medica*; as the *Mercurius Calcinatus*, and the *Vinum Antimoniale*, juſtly claim the firſt Rank, with which ſeveral extraordinary Cures have been performed: The *Sulphur Præcipitat. Antimon.* in ſmall Doſes, is a very good Alterative alſo; and we have ſeveral others, which probably are as well known to Phyſicians, and I have not Room to mention, as this is ſpun out to a greater Length than I firſt intended it.

However I muſt here add a few ſhort Hints, that they may be further explained by ſome other Hand; and they may be ſufficient to the Learned and Judicious: The whole Tribe of the *Teſtacea*, of which ſo many Hundred Weights are annually uſed in *England*, both in *Fevers*, and as *Alteratives*, will be found, upon a rational and ſtrict Inquiry, only fit to be placed among the Inſignificants; except to correct the *Acidity* in the Primæ Viæ in Children, and in thoſe who have delicate, lax, weak Conſtitutions like theirs, and from their alkaleſcent Nature forwarding and aſſiſting Digeſtion in them, by their putreſcent Diatheſis; and will not anſwer both thoſe Intentions effectually, unleſs they be taken in large, or often repeated Quantities, and then are liable to be converted and formed with the Aſſiſtance of the Mucus Matter of the Stomach, into Stones, and lodged there; as may be ſeen in a Caſe related in the *Philoſ. Tranſactions* [a]. And the learned Dr. *Fred. Hoffman* has now furniſhed us with a Medicine, which is every Way much preferable in that Caſe, *viz.* the *Magneſia Alba*, which firſt corrects and deſtroys the *Acidity*, and then carries it off by Stool; and as it does ſo, we ſee ſome ignorantly preſcribe it as a Cathartick, or Laxative in other Caſes, not knowing that it only acts as ſuch, where an *Acidity* is predominant in the Primæ Viæ; as I have found it to do, from more than twenty Years Experience.

And if we examine the Reaſonableneſs and Fitneſs of the *Pulv. Contrayerva*, which is probably the beſt of the *Teſtacea*, if any of them are of any Uſe, and of which ſuch great Quantities are daily uſed in this Nation, what great Things can be reaſonably expected from ſix or eight Grains of the Contrayerva dried Root, which has been kept two or three, or more Years in the Shops, and is at beſt no better, if ſo good an *Alexipharmick* as the *Rad. Angel.* well cured is; and the Teſtacea in it will do little or nothing, if kind and beneficent *Nature* did not do all: We may be more certain, that a proper Doſe of a light Infuſion of the *Rad. Angel.* with a little *Crocus*, or ſometimes a little *Rad. Serpent. Virg. pro re nata,* given when indicated, and where a warming *Alexipharmick* is required, will be much more efficacious; and as much may be ſaid of ſeveral other Medicines, now much in Uſe.

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[a] Phil. Tranſ. Abridg. Vol. 9. p. 171.

Much has been ſaid in Praiſe of the *Cort. Peruviana* in ſcrophulous Caſes [b]; and it is much wiſhed, that thoſe ingenious Phyſicians had more accurately diſtinguiſhed, and more clearly deſcribed, the Circumſtances, Conſtitutions, Symptoms, and the true Indications, when and where the *Cortex* ſhould be ſo given, and where it will be ſucceſsful; as well as wherein, and when it muſt fail, and be more prejudicial than uſeful. We obſerve that the *Scrophula* is a Diſeaſe which principally affects the *Glands*, and moſt commonly thoſe of the larger and *conglomerate* Kind; and we may obſerve, that the Coats of the Arteries and Veins generally are very thin, tender, lax, and weak in moſt, if not all *ſcrophulous Patients*; hence their Complexions are uſually more florid, and their ſanguiferous Veſſels more eaſily dilate, or burſt, and they more ſubject to Hæmoptoens, and other Hæmorrhages; and their Veſſels, which form the conglomerate Glands, and are ſo much complicated, being lax and weak, are more liable to be obſtructed, as we ſee they generally

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[b] Medical Obſervat. Vol. 2.

nerally are in that Diſeaſe: Hence we ſee, that the Cauſe of the Diſeaſe is chiefly in the tender, lax, weak State of the Solids, and not firſt in the Fluids, as in ſome other Diſeaſes: Wherefore the *Cortex Peruviana,* which contracts, braces, and corroborates thoſe tender weak Veſſels, and gives a briſker Motion to the Fluids, and ſo prevents, or probably removes ſome incipient ſmall Obſtructions, and beginning Tumours, if not attended with Inflammation, or Obſtructions too great, is both a proper, and an efficacious Remedy; but where the Obſtructions are conſiderably great, and the Tumours large and hard, or the Glands are ulcerated, the *Cortex* is ſo far from removing them, that it rather renders them irremoveable, if they were not ſo before, and haſtens on their Suppuration: In which Caſe the *Cortex* ſhould by no means be given, till after the Obſtructions are firſt clearly removed; becauſe ſo giving it, frequently produces irremoveable Obſtructions, as the judicious *Boerhaave* juſtly obſerves: This I have ſometimes known to be effected, by giving the *Mercurius Calcinatus,* or *Crude Mercury,* in ſmall Quantities, for a conſiderable time, and the *Cortex* for as long a time after: But I muſt confeſs, that in this Caſe, as alſo in thoſe Tumours which we often ſee in Womens Breaſts (and too often end in Cancers)

cers) if they are not become perfectly ſcirrhous, are the moſt effectually removed and carried off by drinking Sea-Water, ſo as to purge briſkly for two or three Weeks, if they can well bear it, till the Tumours ſubſide, and the Obſtructions are removed; after which, taking the *Bark* for a ſuitable time, reſtores the Tone of the Veſſels, and effects a very extraordinary Cure, when they are thus judiciouſly adminiſtred.

But when we ſee them thus given, and perform ſuch great Cures, let us not therefore conclude, that either the *Sea-Water*, or the *Bark*, will infallibly cure all Patients whatever that are afflicted with that Diſeaſe; much leſs that they will cure almoſt every other Diſeaſe that is leſs violent, and then become ſo fond of them, as to give them, in an empirical Manner, almoſt in every Diſorder, and ſo render them ſo faſhionable, that they are taken for every Complaint, till they are condemned as being good for nothing, becauſe they will not cure every thing, as is now too much the Cuſtom; but let us preſcribe them when, and only when they are truly indicated by *Nature* and juſt Reaſoning.

There are ſeveral other medicinal Drugs, which are endowed with conſiderable great healing Virtues, which are well known to obſerving judicious Phyſicians, which might be mentioned here; but I ſhall only mention the following, whoſe Virtues probably are not ſo generally known, leſt it ſhould be thought that I take too much upon me to dictate to others, what they probably know already, as they have the ſame Means of Obſerving, Reaſoning, and Experiencing as myſelf, if they will take the ſame Methods and Labour, to make ſuch Obſervations, *&c.*

It was by Obſerving, Reaſoning, and Experience, that I found *Myrrh*, (which has always been eſteemed an Emenagogue internally, and a cleanſing Digeſtive, and healing Medicine externally) to be not only one of the moſt powerful *Antiſepticks*, but alſo the moſt *efficacious balſamic healing Medicine* in the Cure of moſt *internal Ulcers*, either in the Lungs, as in a *Hæmoptoen*, a *Vomica*, or *Phthiſis*, or in *Ulcers* in any other internal Part of the Body, that are curable, if it be given in ſufficient Quantities, that we have in the *Materia Medica:* And as it may be all (except a ſmall reſinous Part of it) eaſily diſſolved in moſt aqueous Fluids, it may be ſo given in ſuch ſufficient Quantities as are neceſſary; and it may, with other Ingredients, be rendered not diſagreeable, or may be either joined with ſome other *acid Antiſepticks*, or with more or leſs cooling *Antiphlogiſticks*, or with gentle warming Medicines; and a Milk, or other ſuitable Diet, as the Caſe may require:

quire: And by ſo giving it, ſeveral extraordinary Cures have been performed, which induces me to mention it here; as all Things that are either more or leſs uſeful to Mankind ſhould be made publick, and neither be kept as a *Secret*, or a *Noſtrum*, nor adminiſtred in an *Empirical* manner, as ſome have attempted to do with this, upon ſeeing its good Effects. Thus the beſt Medicines ſometimes become faſhionable, and are improperly given, and ſo become hurtful, and are condemned, which is not the Way to improve medical Knowledge. What has Faſhion to do with Medicine? Phyſicians ſhould be directed and governed by clear and true Reaſon, and the Fitneſs of Things; not Faſhion, which ſhould have no Place in the medical Art: But ſuch is the Taſte of this effeminate luxurious trifling Age, that Faſhion (not Reaſon) muſt ridiculouſly governs in all Things, and muſt be introduced into the Sciences alſo: Thus becauſe Purging with *Sea-Water*, is found to be efficacious in two or three extraordinary Caſes, it muſt be good in many, or in all Caſes; and becauſe *Magneſia Alba* is a ſucceſsful Medicine in one Caſe, it muſt therefore be given in ſeveral other Caſes, where it is not indicated; and becauſe the *Peruvian Bark* is an efficacious Medicine in curing intermiting, and ſome remitting Fevers, and alſo in ſome chronical Diſeaſes, which proceed from a relaxed weak State of the Solids; therefore it muſt be given almoſt in every Caſe: And the ſame may be ſaid of ſeveral other valuable and efficacious Medicines. So likewiſe becauſe drinking ſome medicated *mineral Waters* have been found to be ſucceſsful in curing ſome particular chronical Diſeaſes, it is become a faſhionable Thing to reſort to, and drink them in almoſt all chronical Diſeaſes; and as they are in *faſhion*, they needs muſt be good in all, though they proceed from direct oppoſite Cauſes; and conſequently they produce ſome bad Effects in ſome; therefore they are condemned as being injurious, or good for nothing, becauſe they will not cure all Diſeaſes, when the Fault is in their drinking them improperly, when they are not ſuitable for them.

When the *Briſtol Waters* are proper, the *Bath Waters* are moſt commonly prejudicial; and where the *Bath Waters* are proper, the *Briſtol Waters* are of no Service; and when the *Cheltenham*, or *Scarborough Waters* are neceſſary, neither of the others will be ſuitable; and the *Lyncomb Waters* have cured ſeveral Perſons, when the *Bath Waters* would not, as it is more ſtrongly impregnated with a ſubtile, volatile, chalybeat Principle, which corroborates the Solids much more: And the ſame is true in reſpect to ſeveral other mineral Waters.

For when they have been injudiciouſly taken, becauſe they are in faſhion or vogue, and were not truly indicated to be given by *Nature,* and known to be fitly adapted to cure the Diſeaſe, by juſt Reaſoning, they have each of them proved to be injurious, inſtead of being uſeful, and have been condemned as being good for nothing, becauſe they cannot cure all Diſeaſes. And the ſame Fate has happened to ſome of our beſt and moſt efficacious *Medicines,* when the true Fault has been in preſcribing or taking them.

Thus the *Bark* was condemned, and very near being quite exploded out of all *Practice,* in Dr. *Sydenham*'s time, if that able and judicious *Phyſician* had not reſtored its proper Uſe, and taught other Phyſicians, both when it was injurious, and when ſerviceable, and the right Method of uſing and preſcribing it.

The great *Hippocrates* tells us, that *Contraria Contrariis medentur*; and it is moſt certainly true: Therefore it is not only neceſſary to truly know the Nature, Properties, and Virtues of Medicines, but it is as abſolutely neceſſary to truly know the Nature, Cauſe, Manner of Production, and the Diſpoſition of the Diſeaſe, in order that we may properly and fitly apply the *Contraria* to the *Contrariis*: And it is no leſs neceſſary to know the Methods and Means which *Nature* indicates, and the Ways *ſhe* attempts to carry off and cure the Diſeaſe by, in order that we may know both how and when we ſhould aſſiſt *her* in the moſt proper and effectual Manner to carry off and cure that Diſeaſe.

And as it appears, from what we have ſaid before, that the Knowledge of the Nature and Virtues of Medicines, can only be obtained by accurate Obſervations and Experience, or from Authors of Veracity, who had obtained that Knowledge by the ſame Means: So it alſo appears, that all the true Knowledge of Diſeaſes, their Cauſes, the Manner of their being produced, and their different Natures and Diſpoſitions, always have been, and only can be certainly inveſtigated and truly known, by accurate Obſervations on the Changes of the Air, and the Seaſons, and upon all Diſeaſes, and their Symptoms, which accompany, or follow thoſe Changes: Thus we may know Diſeaſes, and inveſtigate their Cauſes, and the Manner of the Production of all their Symptoms and Effects, by the Aſſiſtance of juſt *inductive mechanical Reaſoning*, agreeably to the *Hydraulick Laws of the Circulation of our Fluids*, and the *Laws of Motion of Matter* and of *Fire*: And then by as accurately obſerving all the Motions, Endeavours, and Indications of *Nature*, to carry off and cure thoſe Diſeaſes; and by obſerving by what *critical Evacuations* ſhe does at laſt caſt off the *morbid Matter* which cauſed them, and ſo reſtores Health, we may, by the ſame Method of Reaſoning, both know the Methods and Means which we ſhould uſe, to aſſiſt *Nature* to produce thoſe ſalutiferous Effects, if we avoid all *hypothetical Reaſoning:* And by thus obſerving, following, and aſſiſting *Nature*, agreeably to her Indications, our Practice will always be both more ſatisfactory and ſucceſsful. For although *Nature* does not act as an intelligent Being, yet ſo moſt wiſely and wonderfully is the human Body formed, that whenever any noxious Matter is got into it, that would be injurious or deſtructive to it, we may obſerve that it ſo irritates, ſtimulates, and offends *Nature*, that *ſhe* always exerts *her* Power, or the *Vis Vitæ*, and acts with great Regularity, Order, and Uniformity, in *her* endeavouring to caſt that offending Matter out of the Body, and thereby in carrying off the Diſeaſe, and ſo reſtoring Health, and preſerving Life.

And ſeeing that in thus obſerving, inveſtigating, and truly knowing Diſeaſes, and their Cauſes; and from thence, by juſt Reaſoning and Obſerving, knowing how and when to aſſiſt *Nature*, according to *her* Indications and Endeavours, is contained the chief Part of medical Knowledge, and the true ſcientifick Principles of the medical Art. Let us therefore, for the Love of Truth, and the Deſire of doing Good to Mankind, diligently purſue theſe Methods, and endeavour to improve them every Way ſtill further; as they are the only Methods by which all true medicinal Knowledge has been obtained, and the only Means by which the medical Art has been improved in all Ages. And let us as carefully avoid falling into the Method of forming imaginary Hypotheſes, and Reaſoning from any ſuppoſititious and falſe Data, either in our *Theory*, or in our *Practice*; ſeeing that doing ſo, has not only led many ingenious and learned Phyſicians into various Errors and Miſtakes, but has diverted them from purſuing thoſe Methods by which they might have further improved medical Knowledge: And let us carefully apply our inductive mechanical Reaſoning when and where, and only when and where we can apply it to certain and true Data, obtained by accurate Obſervations and clear Experiments, founded upon certain and well known Facts, both in our Theory and Practice; and not vainly attempt to account for and explain the Operations and Effects of Medicines, by Reaſoning from the ſuppoſed Figures, Structure, and Size, or Coheſion of the conſtituent elementary Particles of different Medicines, as ſome have vainly attempted to do, but always without Succeſs, ſince we neither do, nor can know that by thoſe Means; becauſe the Operation and Effects of Medicines, can be only truly known by Obſervation and Experience; therefore ſuch Reaſoning ſhould have no Place in our Practice, though it has when and how to apply ſuch Medicines, whoſe Effects are known.

Therefore let us diligently apply accurate Obſervations, judicious Experiments, and juſt inductive mechanical Reaſoning, founded on real Facts, in inveſtigating the true Cauſes of Diſeaſes, and the Manner of their being produced; alſo in obſerving *Nature*, and *her* Indications, and learn of *her*, to know by *juſt Reaſoning*, when and how we may and ſhould aſſiſt *her* to carry off and cure Diſeaſes: And thus we may reaſonably hope to further improve both the *Theory* and *Practice of Phyſick*, and ſo render the *Art* more ſucceſsful, and the *Science* more beneficial to Mankind.

SECT. VI.

Some Remarks on the ACTION *of* FIRE, *in and upon the human Body, as it is concerned both in producing and in curing various Diſeaſes.*

AS I have had an Occaſion to mention the *Laws of Motion of Fire* more than once in this Treatiſe; and as *its Laws*, and manner of *acting*, are in general but little known, even by the Learned, I ſhall endeavour to explain them here, that they may be more generally known, and applied to the *Theory of Phyſick*.

Some Obſervations and Experiments, which I made near thirty Years ſince, upon that ſubtile Being which we call FIRE, and the many extraordinary Effects which it frequently produces, both in human, animal, and all other Bodies, induced me then to examine and inquire further into the *Nature, Properties, Laws of Motion*, and the Manner of *Fire's acting*: By thoſe Inquiries it ſoon appeared, that *Fire* had a much greater Effect, and a greater Share of Action, both in preſerving and continuing all animal Life, as well as in producing, and in the Method of curing moſt Diſeaſes, eſpecially Fevers, than was generally apprehended: Wherefore a true Knowledge of its *Laws of Motion*, and manner of *acting*, ſeemed to be of ſo great Importance, in the Preſervation of Health; and in the *Cure* of *Diſeaſes*, that it induced me then to inquire further by the means of various Obſervations and Experiments, what its true *Laws of Motion* and manner of acting really are. And having, with much Labour, diſcovered thoſe its peculiar *Laws*, and manner of *acting*, before I left *England*, I endeavoured to apply them in inveſtigating the Cauſes and Manner of the Production, as well as in the Methods of *curing Diſeaſes*, eſpecially *Fevers*, as it enabled me both to account for the Cauſes, and the Methods of curing them, with more Satisfaction, and I think I may ſay with more Succeſs, in my Practice alſo: This, upon my Return, induced me to lay before the Honourable *Royal Society*, an Account of thoſe *its Laws of Motion*, and *peculiar Manner of acting*, in a ſhort Method; which, at the Requeſt of ſome of my Friends, I publiſhed in the Year 1759 [a], with ſome Additions, in order to ſhew its Modes of acting on all Bodies, in all Parts of Space.

As the Account of ITS Manner of acting on the human Body, is ſo ſhort in that *Treatiſe*, and the Knowledge of *its Laws of Motion*

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[a] The Nature, Properties, and Laws of Motion of Fire, demonſtrated by Exper. Printed by Davis and Reymers.

Motion are of ſuch Importance; becauſe the Action of *Fire* is ſo abſolutely neceſſary to the regular performing the Action of *Digeſtion,* the Formation of the *Chile,* the converting it into *Blood,* and to the carrying on and continuing its *Circulation,* as well as to continue all the *Secretions* of the animal Fluids, and the due Performance of all the Functions of *Life*; but alſo both in the Manner of the Production of *Fevers,* and in the Method of curing them. And as thoſe *Laws of Motion of Fire,* and *its peculiar Modes of acting,* are ſo uncommon, and ſo little known, I ſhall endeavour to explain them here with as much Clearneſs and Brevity as the Nature of ſuch a ſubtile and myſterious Subject will admit of; in doing which, I ſhall endeavour to avoid all Suppoſitions and Hypotheſes, as much as poſſible, being ſenſible that they only ſerve to lead us into Errors and Miſtakes.

Having already demonſtrated, in the above-mentioned ſmall *Treatiſe*[b], that "*Fire* "*is a Body compoſed of the ſmalleſt elementary* "*Particles of all Matter*; *and that it pene-* "*trates, pervades, rarifies, expands, and* "*divides the ultimate Elements of all other* "*Bodies whatever, both Solids and Fluids,* "*yet known*[c]."

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[b] Idem, Prop. 2d and 3d.

[c] Idem, Prop. 4. p. 18.

As the Truth of theſe has been clearly and fully demonſtrated before [d], by careful and accurate Experiments, it is not neceſſary to repeat them here.

The firſt Law of Motion is, "*Fire is* " *attracted and collected by the Motion and* " *Attrition of all other Bodies.*"

Law 2d is, "*The elementary Particles of* " *Fire are in a conſtant State of Repulſion* " *from each other; and the nearer they are* " *brought to Contact, the greater is their repulſive Force from each other, till they obtain a State of Equilibrium and Reſt.*"

Law 3d is, "*Fire is put in Motion in parallel right Lines, by Light emitted from* " *the Sun, and cauſed to move with Force,* " *and produce Heat and more Light.*"

The Truth of theſe *three Laws of Motion of Fire*, (however ſingular they may appear to be) I have endeavoured to demonſtrate, in the ſame *Treatiſe*; and that all the *Motions*, *Actions*, and *Effects*, which are produced by *Fire*, (it is apprehended,) may be clearly accounted for, and explained by theſe *three Laws of Motion*.

That *Fire* is a Body which penetrates, pervades, and divides the ultimate component elementary Particles of all other Bodies, may be proved by ſeveral Experiments; and that it does penetrate, pervade, and expand every Part of the human Body, either

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[d] Idem Ibid.

either in a greater or leſs Degree, at all times, may be demonſtrated by the ſame Experiments; and produces that Senſation which we call *Warmth* and *Heat*, in proportion to the Quantity of *Fire*, and its Quantity of Motion in the Body, may be demonſtrated by various Experiments; and is further confirmed, by obſerving the different Degrees of Warmneſs, or *Heat*, which are obtained, either by ſitting near a common Fire, or by different Degrees of Motion and Exerciſe of our Bodies, or the increaſed Motion of our circulating Fluids, as in a *Fever*; and this Heat is always greater or leſs, in proportion to the Quantity of *Fire*, and its Quantity of Motion, which produces that Senſation which we call Heat in our Bodies by its Action on our Nerves; for the Heat does not exiſt in the *Fire*, but our Senſe of it in our Bodies. And that Senſation which we call *Cold*, or *Coldneſs*, which the Ingenious and Hon. Mr. *Boyle* ſuppoſed to be a real Body, is found to be only a Negative of *Heat*, or the Abſence of *Fire*.

As it has been proved, that the Quantity of *Fire*, collected by Bodies in Motion, is always as the Quantity *Motion* and *Attrition* of the conſtituent Parts of the Bodies moved conjunctly; therefore the Quantity of *Fire*, which is continually *collected* by the *Motion* and *Attrition* between the circulating Fluids, and their containing Solids, will always be as the Quantity of Motion and Attrition between the Solids and Fluids conjunctly, in any Perſon, at any given Time. And the Degree of Heat in that Perſon, will always be as the Quantity of *Fire collected*; and the Heat of each Part of the Body, will be as the Quantity of Motion and Attrition in that Part; and that is as the Quantity of *Fire* collected in it.

Although neither the *Ancients* nor *Moderns* had diſcovered the *Laws of Motion of Fire*, yet the Ancients had diſcovered by Obſervation and Experience, that Motion generated *Heat*, and from thence *Omnis Calor a Motu*, became a common Saying; but they neither did know that *Fire* was collected by Motion, nor that that animal Heat was produced or cauſed by *Fire*. But we ſhall endeavour to make it appear, that not only all *animal Heat*, but all *Heat* in all Bodies whatever, all proceeds only from FIRE, and even what the *Ancients* called θέρμον ἔμφυτον, *Calidum Innatum*, all ſolely proceeds from *Fire*; for although it is born with us, yet it is *Fire*, which was collected by the Motion and Attrition of our Mother's Fluids, out of the common or univerſal *Maſs of Fire*, and was firſt communicated from her to the Fœtus; and was after collected by the Motion of its Fluids; and is really *pure elementary Fire*, which by its Motion produces that Senſation which we call *Heat*.

That this *pure elementary Fire*, which exiſts in every Part of Space, and does penetrate and pervade all other Bodies, and is collected by the Motion and Attrition of our circulating Fluids, and puts their conſtituent Elements in Motion, and thereby produces Warmneſs and Heat in them, may be demonſtrated by various Experiments; and that all the *Heat* in all animal Bodies, is produced by the Motion and Attrition of their Solids and Fluids, which collects this *pure Fire*, and it produces the Heat; as Heat is only the ſenſible Effects which Fire produces in our Bodies, which is perceived by our Senſes.

And that this *pure Fire* does continually penetrate, pervade, or paſs into, and again out of our Bodies, at all times, ſo long as we continue to move, act, and live, may be demonſtrated ſeveral Ways; as, let two Men, who are the ſame Weight, Bulk, and of the ſame Degree of Heat, go into a large Area, in a cold clear Night; let one of them ſit ſtill in it, whilſt the other runs ſwiftly round that Area, half an Hour, or longer, at the End of which time he that runs will be very warm or hot, and he who ſat ſtill will be very cold, though they were both equally expoſed to the ſame cold Air all that time; and the only Difference between them, was *Motion* in one, and relative not perfect Reſt in the other. He who run, by moving his Legs, Arms, and Body, put his Blood thereby into a quicker Motion than it was before, or than the other Man's Blood is in; and this increaſed Motion of his Blood, brings it ſooner to his Heart again, which, with the Aſſiſtance of the Stimulus which *Fire* gives to the ſenſible nervous Fibres of the Heart, cauſes it to contract itſelf ſooner and more ſtrongly, and thereby ſends the Blood ſooner from and to the Heart again; and the Exerciſe being continued, the Motion of the Blood, the Action of the Veſſels, and of the Fire upon it and them, are continually increaſed, and that increaſed *Motion* and *Attrition* continually *collects more Fire* into the Body, and cauſes and increaſes that *Heat*; becauſe nothing but this *pure Fire*, which is ſo *collected* by that *Motion*, is added to his Body, more than what is added to the other Man's Body, who is ſo *cold*, as they are both in the ſame Area, and breathe the ſame Air; the only Difference between them, was the Quantity of *Motion* greater in the one than was in the other, which cauſed a greater *Attrition*, and *collected* more *Fire*, and that cauſed a greater *Stimulation* and *Heat*.

And this *Fire* or *Heat* is much ſooner *collected* in a warm Place, in a warm Day, when the Sun ſhines bright, becauſe more

Fire is brought to and exiſts in that Place, as it is put in *Motion* by the *Light* emitted from the *Sun*, and is cauſed to move with greater Velocity, and to act with greater Force, by Law 3d.

Let the Man thus heated by violent Exerciſe, to the higheſt Degree that it can in that time be well brought to, ſit ſtill in that cool Area, and the *Fire*, which was ſo *collected* into his Body, by that Motion before, will gradually paſs off, and eſcape out of his Body, by the repulſive Power of *Fire*, Law 2d, in proportion as the *Motion* and *Attrition* of his circulating Fluids decreaſes, till he becomes as cool as he was before he began the Exerciſe; *i. e.* till the *collecting Power of Fire*, by the Motion and Attrition of the circulating Fluids, Law the 1ſt, becomes equal to the *repulſive Power*, Law 2d; and then he will continue to be of the ſame Temperature of *Heat*, as in a State of Health, or as he was before.

Or let us ſuppoſe that when he is ſo *hot*, that all the internal Motion of his Solids and Fluids intirely ceaſes at once, for a given time; then the *Fire*, which was before *collected* by the increaſed Motion and Attrition of the circulating Fluids, will all eſcape out of his Body again by *its repulſive Power*, Law 2d, and the Fluids will cohere, coagulate, or concreſs and ſtagnate, from the Want of that *Fire*, and *its ſtimulating*,

lating, expanding, and attenuating Power, and the Want of that continual *Motion*, by which that Fire was continually collected, and he will die; and all that Fire and Heat which was *collected* before by that great *Motion*, will ſoon eſcape out of his Body, by *its repulſive Power*, till his Body is become as cold as the circumambient Air. And all the *Fire*, which ſo eſcapes out of his Body, will by *its repulſive Power* reſtore itſelf to the univerſal common *Maſs of Fire*, from which it was before *collected*, and will return to *its State of Equilibrium and Reſt*, and will ſo remain, till it is acted on, and put in *Motion* again, either by the Motion of ſome other Bodies, or by the *Motion of Light* emitted from the *Sun*, Law 3d.

That this is not a *hypothetical Notion*, but a true State of the *Motions* of *Fire*, and the Manner or Means by which *it* does really *act* on the human Body; and that by *its* ſo acting according to *its peculiar Laws of Motion*, it is the true *Cauſe* of all the *Heat* or *Warmneſs* which is in all *animal Bodies* (and in all other Bodies) may be clearly demonſtrated by ſeveral other Experiments; but as what I have already ſaid (as well as in another Place [h]) appears to me to be ſufficient to convince every attentive intelligent Reader of the Truth of this; wherefore I ſhall here only treat on *Fire*, as *it* acts upon the human Body, as it is the Means of preſerving and continuing Life; and how *it* is concerned both in producing, and in the Methods of curing Diſeaſes, and reſtoring Health; or in procuring the final Diſſolution of the Body by Death.

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[h] In the Treatiſe on the Laws of Motion of Fire.

That FIRE is thus employed, and is greatly concerned, as a very material *Agent*, in the Production of all *Fevers*, how different ſoever their *procatarctick Cauſes* may be, will appear from the following Obſervations. Whether thoſe *Fevers* ariſe from *infectious* and *contagious Miaſmata*, or from a *viſcid ſizy inflamed Blood*, obſtructing the ſmall capillary Veſſels, and irritating the ſtrong elaſtick Solids by their Motion, and the Stimulus of the *Fire*, or from any other acrimonious Matter that is conveyed into the circulating Fluids, which increaſes the Stimulus of the *Fire*, and irritates the ſenſible nervous Coats or Membranes of the Heart and Arteries, or other Parts which they come in contact with, and thereby cauſe them to contract themſelves more frequently and more ſtrongly, and ſo increaſes the *Motion* of the circulating Fluids, and the *Attrition* between them and their containing Solids; and that increaſed *Motion and Attrition* continually *collects* more *Fire*, and ſo cauſes a greater *Heat*, or *high Fever*. That this Stimulus and Irritation, *&c.* is neither *hypothetical* nor imaginary, but is a real *Fact*, will more evidently appear, if we obſerve, that the infectious *Miaſmata*, which produces ſome *Fevers*, ſoon after its firſt Reception, and whilſt it is yet in the Stomach and Inteſtines, often irritates their ſenſible nervous Coats, and thereby produces a *Vomiting* and *Purging*, ſometimes before the *Miaſmata* are paſſed into the circulating Fluids; (and *Nature* thereby indicates to us how we ſhould aſſiſt *her*, by encouraging thoſe Evacuations at that time, by a ſmall Doſe of *Vini Ipocacuan.* or *Rhabarbari*, or both, which often much abates the Violence, and all the Symptoms of the Fever after, as I have often obſerved with great Satisfaction;[i]) conſequently when the *Miaſmata* are paſſed into the circulating Fluids, they there ſtimulate and irritate the ſenſible nervous Parts of the Heart, Arteries, and the other Parts of the Body which they come into contact with, and ſo cauſe them to contract themſelves more frequently and ſtrongly, and ſo firſt produce a *Rigor*, then a quick full Pulſe, which cauſes a great *Motion* and *Attrition* between the Fluids and the Solids, and that increaſed *Motion* and *Attrition* collects too great a Quantity of the *Fire*, which increaſes the Stimulation, and ſo produces a great *Heat* and violent *Fever*: For when theſe immediate Cauſes are all great and violent, they muſt *collect* ſuch a great Quantity of *Fire*, as muſt produce a *violent hot Fever*, which then too often proves to be mortal, if not timely relieved and cured.

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[i] Obſerv. on the Diſeaſes of Barbadoes, p. 77, 86, 90, 93.

Seeing that INFINITE WISDOM has ſo wonderfully and moſt wiſely formed this *ſubtile pure Fire*, and endowed it with that extraordinary Property and Power of being *collected* by the *Motion* and *Attrition* of all other Bodies; (which Motion and Attrition abrades, diſſipates, diſperſes, and deſtroys all other Bodies) and as this *Fire* actually is thus continually *collected* by the *Motion* and *Attrition* of our circulating Fluids, and the Re-action of our Solids: The ſame OMNIPOTENT BEING has moſt wiſely ſo formed all animal Solids and Fluids, and has given them ſuch an Action and Force, as fits them to *collect* ſuch a due and adequate Quantity of this *pure Fire*, as is moſt ſuitably fitted to cauſe our Growth, Increaſe, and to continue the due Performance of all the Functions of Life, and the Preſervation of all animal Beings, their appointed time, ſo long as we continue to act regularly, wiſely, and fitly.

But inaſmuch as Man, and other Creatures, are liable to Irregularities, Follies, and over violent Actions, and ſo to ſubject themſelves to other Accidents, which might be frequently injurious, or deſtructive to our Lives, the DIVINE BEING has moſt beneficently endowed this *pure Fire* with a peculiar Power of eaſily penetrating and freely pervading all other Bodies whatever; and has alſo ſubjected *it* to, or endowed *it* with another *Law of Motion*, viz. *its repulſive Power*, by which it is repelled and expelled, and does continually eſcape and paſs out of our Bodies again, with an adequate Motion, and in ſuch a due Proportion to the Quantity of *Fire collected* by the *Motion* and *Attrition* of our Fluids, as is fit to preſerve Health, and continue Life; unleſs where the *collective Power* is cauſed to exceed the *repulſive Power* in too great a Diſproportion, either by our own Irregularities, or ſome other extraordinary Accidents, from whence *Fevers*, &c. which we ſhall ſpeak of after.

But let us firſt inquire how FIRE acts in and upon the human Body, by the Power and Means of *its peculiar Properties*, and *its ſingular Laws of Motion?*

That ſome of the ancient Philoſophers and Phyſicians, eſpecially *Zaraduſht*, or *Zoroaſter*, *Moſes*, *Heraclitus*, *Hippocrates*, *Plato*, and *Paul* of *Ægina*, had ſome extraordinary Perceptions of the Motions and Actions of this exceeding ſubtile Being, which they called *Fire*, and of its great Power, is certain, as appears from ſeveral ſhort Hints and Remarks on it, which they have left us in their *Works*; although they were not acquainted with *its Laws of Motion*, or how it acted, and produced thoſe its various wonderful Effects.

Firſt, how *Fire* is concerned as an Agent, in performing and perfecting the three Digeſtions, *viz.* in changing the fineſt and moſt ſubtile Parts of our *Food* into *Chile*; ſecondly, in converting the Chile into Blood; and laſtly, in preparing and fitting the Blood to ſecrete the *vital* and *animal Spirits*, or the *nervous Fluid*; as alſo in ſeparating and applying the ſeveral nutritious Juices to the various Parts of the Body, and in fitting them to perform all the neceſſary Functions of Life, and in ſecreteing and ſeparating ſuch Parts of the animal Fluids, as are of no further Uſe, and caſting them out of the Body, by ſuch Evacuations, as they are moſt properly adapted to be carried off by. And then let us inquire how far this *Fire* is concerned in producing Diſeaſes, eſpecially *Fevers*; and laſtly, how *Fire*, as an active Principle, is employed by *Nature* in the Cure of Diſeaſes, more eſpecially *Fevers*, both by its ſtimulating the Solids, and by its penetrating and attenuating Power, dividing and concocting the *morbid Matter* which produces Fevers, and ſo fitting it to be caſt out of the Body by ſome critical Evacuation.

It has been elſewhere [k] made to appear, that if INFINITE POWER had not ſo moſt *wiſely* formed *Fire* with ſuch extraordinary *Properties*, and endowed *it* with ſuch a peculiar Power of penetrating, pervading, rarefying, expanding, dividing, and putting in Motion the ultimate elementary Particles of all other Bodies, that we yet know, there could have been no ſuch thing as a *fluid* or *liquid* Body exiſting in Nature; for *Water*, without a due Proportion of *Fire*, being mixed with it, would be a hard ſolid frangible Body, like Cryſtal, *i. e.* Ice. And Blood, (ſuppoſing there could be ſuch a thing without *Fire*,) would be a ſolid Body like a Ruby, or a Garnet; and the Caſe would be the ſame with all other Fluids, ſince Spirits of Wine, in the North-parts of *Tartary*, freezes, and becomes a ſolid Body; and Quickſilver, which will bear the greateſt Degree of Cold of any Fluid, and will remain in a fluid State with the leaſt Mixture of *Fire* with it, of any Fluid that we know; yet ſome late Experiments made in *Ruſſia*, ſhew us that it may be ſo much deprived of *Fire*, as to make it become a ſolid malleable Body [l]. And if there are no fluid Bodies, without a Mixture of ſome *Fire* in them, there conſequently could be no vegetable nor animal Life without *Fire*, neither any Senſation, Motion, animal Fluids, or Animals.

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[k] Laws of Motion of Fire, p. 43.

[l] Philoſ. Tranſact. An. 1760.

Seeing that there can be no Fluids without a due Proportion of *Fire*, and that DIVINE GOODNESS has ſo wonderfully formed *Fire*, and ordained and ſubjected it to be *attracted* and *collected* by the *Motion* and *Attrition* of all other Bodies, in proportion to the Quantity of that *Motion* and *Attrition*. And that *Fire* is continually *attracted* and *collected* in that Proportion, by the Motion of our circulating Fluids, and the periſtaltick and internal Motions of our Bodies: This *Fire* ſo collected, does by its repulſive Power, and its penetrating, pervading, expanding, and dividing Properties, paſs into both the ſolid and liquid Food, taken into the Stomach, and penetrates and divides every Particle of the Food, and ſo mixes them with the Fluids, by the gentle periſtaltick Motion of the Stomach, and the Action of the *Fire*, which keeps the liquid Parts in ſuch a thin attenuated fluid State, that they eaſily mix with and extract the nutritious Juices out of the ſolid Food, and by the Action of the *Fire* upon it, concoct and convert it into *Chile*. For the periſtaltick Motion of the Stomach does not grind the ſolid Food with that great Force, as ſome Authors have hypothetically imagined[m] (as Birds do with the Aſſiſtance of

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[m] Dr. Pitcairn on Digeſtion in his Works.

Sand in the Gizard, which ſupplies their Want of Teeth) but only gently mixes the ſolid and liquid Food together, and carries it to the Pylorus after it is digeſted; but the *Fire* or *Heat* performs the Work of Digeſtion, and forming the *Chile*.

The Chile being thus far prepared in the Stomach, is carried into the Inteſtines, where it is mixed with a due Proportion of *Bile* and the *Gaſtrick Juices* [n], and is there further attenuated, divided, and concocted by the Motion and Action of *Fire*, which alſo ſtimulates the Orifices of the lacteal Veſſels, and excites, or increaſes the periſtaltick Motion of the Inteſtines, by which the Chile is carried into the lacteal Veſſels, and ſo into the Receptacle of the Chile, where it is mixed and diluted with the Lympth, brought thither for that Uſe, and is then carried by the thoracic Duct into the ſubclavian Vein, and mixed with the Blood.

The Chile being thus prepared, and mixed with the Blood, is then carried with it through the Lungs, and the whole Courſe of its Circulation, in which it meets with a conſiderable Degree of Attrition, as the Pulſe is always quicker after Eating, and during the Time of Digeſtion; and by that increaſed *Motion* and *Attrition*, a conſiderable

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[n] Dr. Boerhaavii Inſt. Med. Sec. 126, &c.

able Quantity of more *Fire* is *collected*; which *Fire* or *Heat* does, by its penetrating, attenuating, and dividing Power, more minutely attenuate, divide the conſtituent Particles of the Chile, and ſo concoct and perfectly tranſmute it into Blood, which is called the Second Digeſtion.

The Circulation of the Blood being ſtill continued, the *Motion* and *Attrition* between it, and its containing Veſſels, continually *collects* more *Fire*; and this *Fire* being as continually *emitted* out of the Body again, by *its repulſive Power*, this continued *Motion* and *Action* of the *Fire*, as it eaſily penetrates and pervades every minute Part of the Body, greatly contributes to attenuate and fit the Blood, to ſeparate and ſecrete not only the fineſt Parts of it in the *Brain*, viz. the *vital* and *animal Spirits*, or *nervous Fluid*, but the *nutricious Juices*, the *Lymph*, and all the other animal *Secretions* and *Excretions*, and contributes greatly to the due Performance of all the *Functions of animal Life*. This is uſually called the Third Digeſtion, and more frequently the *Vis Vitæ*, or *Work of Nature*; in all which it evidently appears, if we carefully examine and obſerve, that *Fire* has a very conſiderable *Share of Action*.

Hence we ſee, that FIRE is a Being which is continually employed by *Nature*, not only in forming and preparing all our nutricious Juices, and applying them to repair, reſtore, and preſerve all the Parts of the human Body, but alſo in performing all the Functions of Life, and preſerving Health and continuing Life in all animal Beings; although this has never been ſufficiently obſerved and accurately inquired into, either by *Philoſophers* or *Phyſicians*, in any Ages that are paſt.

Let us now inquire how FIRE is concerned and employed by *Nature*, as an active Principle and a powerful Agent, both in producing *Fevers*, and in curing them.

As it appears that *Fire* is always *attracted* and *collected* by the *Motion* and *Attrition* of all other Bodies [p]; and that the Quantity of *Fire* ſo *collected*, is always as the Quantity of *Motion* and *Attrition* conjunctly: Therefore the Quantity of *Fire* which is *collected* by the *Motion* and *Attrition*, which is produced between the circulating Fluids, and their containing Solids, will always be as the Quantity of *Motion* and *Attrition* is. And the Truth of this is confirmed by careful Obſervation, and may be ſo by others, who will diligently and attentively obſerve the Quickneſs, Hardneſs, and Fulneſs of the *Pulſe*, and take the Heat of the Patient by an accurate-made *Pyranthropometron*; and then make the ſame Obſervations on another Patient, where the Hardneſs

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[p] See Laws of Motion of Fire, Law 1ſt.

neſs and Fulneſs of the Pulſe are leſs, tho' the Quickneſs may be the ſame; ſince where the Pulſe is hard, full, and quick, the *Attrition* is greater, and the *Motion* alſo; becauſe the Momentum of a Body in Motion, is always as the Quantity of its Matter, multiplied by its Quantity of Motion; and where the Pulſe is hard, the Blood is more denſe, and its Attrition greater.

Thus *Nature* employs *Fire* as a Medium, or an Inſtrument, to excite and bring on a *Fever*, but always as a Means, or with an Intention, if I may ſo ſpeak, to attenuate and carry off the offending *morbid Matter* which cauſes the Fever, out of the Body, which if not ſo carried off might be deſtructive to it.

Thus, when any *infectious Miaſmata*, or contagious *morbid Matter*, is conveyed into the Blood, that *offending morbid Matter ſtimulates* and *irritates* the ſenſible nervous Coats of thoſe Parts which it comes in contact with; as the Heart and Arteries; and that Stimulation cauſes them to contact more frequently and more ſtrongly, which increaſes the Momentum of the circulating Fluids, and the *Attrition* between them and their containing Solids; and that increaſed *Motion* and *Attrition* continually *collects* more *Fire*, in proportion as they are increaſed; which *Fire* both increaſes the Stimulation, and cauſes the *Heat* or *Fever*:

And this *Fire* or *Heat*, when ſo *collected* in ſuch a Proportion, that its Quantity or Heat is neither too great, ſo as to raiſe the Fever too high, nor too little to effect a Criſis, but in ſuch a Quantity as is ſufficient, and fit to attenuate, divide, or in *Hippocrates*'s Term, *concoct* the *morbid Matter*, by its penetrating, pervading, and attenuating Power, ſo as to render it capable and fit to be caſt out of the Body, by ſome of the excretory Paſſages, in a *critical Evacuation*, is the Method which *Nature* takes to carry off and cure *Fevers*.

And when the *morbid Matter* is thus caſt out of the Body, and all Stimulation from it ceaſes, and the Fluids have acquired a free Paſſage through all the Veſſels, their Motion ſoon becomes regular again, by which the ſtimulating and collecting *Cauſe of Fire* becomes much leſs than *its repulſive Power*; whereby the *Fire*, which was collected before, ſoon eſcapes out of the Body by *its repulſive Power*, and the Patient ſoon becomes cool, and is reſtored to Health again. In the like manner, in all inflammatory Fevers, whether they ariſe from an Obſtruction of the perſpiratory Veſſels and Pores, by their being too ſuddenly contracted and obſtructed by Cold, or being wet; or from ſome Moleculæ formed in the red Globulæ of the Blood, either by Cold, ſomething poiſonous, the Bite of a

Serpent, or any other Cauſe; or from an *Error loci*, by the red Globules of the Blood being carried into the *ſeriferous* or *lymphatick Veſſels*, when heated by Exerciſe or otherways, when thoſe Veſſels were relaxed and dilated by that Heat, and then too ſuddenly contracted by Cold, or from any other Cauſe; whence thoſe red Globules ſtagnate, diſtend, and obſtruct a greater or leſs Number of thoſe ſmall Veſſels: And the ſame Quantity of Blood being ſent by the larger Veſſels, to thoſe Parts as before, ſuch Part of it as uſed to paſs through thoſe Veſſels which are now obſtructed, cannot paſs now; therefore a greater Quantity of it muſt paſs through the ſmall colateral Branches of thoſe ſmall Veſſels, which remain permeable, and through ſeveral which did not permit red Globules to paſs before, therefore they will dilate and expand them, and give acute Pain, and cauſe the Part to appear red and inflamed; and the Impetus of the Blood from the Heart, againſt the obſtructing Matter in the obſtructed Veſſels, will increaſe the Pain and Inflammation, and cauſe a Throbbing: This Irritation and Pain will increaſe the *Motion* and *Attrition*, and that will *collect* more *Fire*, which will ſtill increaſe the Inflammation, Heat, and Fever, and that ſtill collect more *Fire*, till the Impetus of the Blood, and the *Fire*, by its penetrating and attenuating Power, attenuates and diſſolves the obſtructing Matter, ſo that it is aſſimilated and mixed with the circulating Fluids again, and the Inflammation is thus carried off and cured by *Reſolution*; and then the Fire ſoon eſcapes by virtue of *its repulſive Force*. This Method of Cure is effected, where the Number of the obſtructed Veſſels is not too great, and the obſtructing Matter is not too hard, or too cloſe united, but ſo that it may be diſſolved by the Action of the Veſſels and the *Fire*.

But when the obſtructed Veſſels are ſo numerous and contiguous, and the Obſtructions are ſo great, that the Inflammation cannot be taken off by Reſolution, then the increaſed Momentum of the Blood, and the Quantity of *Fire collected* thereby, does by its penetrating and dividing Power, ſo attenuate and divide the obſtructing Matter and the ſmall obſtructed Veſſels, as to reduce them both into that yellowiſh white ſoft Pulp, which we call Pus, or Matter, and caſt it out of the Body by Suppuration; after which, the irritating Cauſe being removed, the *Fire* ſoon eſcapes by *its Repulſion*, and the Fluids return to their regular Motion again.

And when the Number of the obſtructed Veſſels, and the Obſtructions are ſo very great, and ſo contiguous, that they compreſs each other, and can neither be re-

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ſolved nor ſuppurated, becauſe ſo few of the Veſſels are permeable, that the *Motion* and *Attrition* of the Fluids is not ſufficient to *collect* ſuch a Quantity of *Fire*, as is ſufficient either to attenuate and reſolve, or to ſuppurate them, nor to remove the Obſtructions; and the Momentum of the Fluids being too weak, the Obſtructions are increaſed, till moſt of the Veſſels become impermeable, and are totally ſuffocated, which is ſoon followed by a Gangreen or Sphacelus.

This is the Caſe in all Inflammations, which are either taken off by Bleeding, Antiphlogiſticks, and a Reſolution of the morbid Matter, or by Suppuration, or a Mortification; except in ſome Caſes, where the Reſolution is ſo imperfect, that the Part becomes *ſcirrhous*, of which there are many Inſtances.

As *pure Fire* is ſuch an exceeding ſubtile Body, and ſo eaſily and freely penetrates and pervades all other Bodies that we yet know, and moves with ſuch an exceeding great Velocity, and acts with ſuch great Power, and by its penetrating and attenuating Power keeps all the animal Fluids, even the fineſt and moſt ſubtile of them, in a fit State of Fluidity, to paſs through the moſt minute Veſſels in the human Body; with all theſe peculiar and extraordinary Properties, it ſeems to be ſuch a very ſubtile Body, as is the moſt fitly adapted to act upon the Nerves, and their very ſubtile Fluid; or to be acted upon by them, or by the Will, both in producing the voluntary and involuntary Motions of the Body. But how far, or how much this *pure Fire* is actually concerned in producing either of thoſe Motions, I ſhall not take upon me to ſay or aſſert, though there ſeems to be a great Probability that it may be employed in the one, or in both; but we want ſome more accurate Obſervations and deciſive Experiments to aſſert either, which Time may produce; and I am not willing to advance any thing Hypothetically, or on Suppoſition.

Hower, that *Fire* is a Stimulus is certain; and that it can ſtimulate the ſenſible nervous Parts of the Body, is as certain; and that it does ſtimulate the ſenſible nervous Coats of the Heart and Arteries, and increaſe their Action, (whether it be the Cauſe of their involuntary Motion or not) appears from their increaſed Motion in Fevers, and more evidently in the Caſe of the Man uſing Exerciſe in the cold Area before-mentioned[q], where no malignant or ſtimulating Matter is added, but that of *Fire* only: He firſt, by the Action of his Will, voluntarily moves his Limbs, which propels the Blood to the Heart, which by its *Heat* or *Fire* gently ſtimulates the Heart and Arteries, and cauſes them to contract and propel the Blood to the Limbs again; and this increaſed *Motion* and *Attrition* collects more *Fire*, which ſtill increaſes the Stimulation, and that, the Contractions of the Heart, and the Motion and Attrition and Collection of more *Fire*, and ſo on in this continued Circle, till the voluntary Motion of his Body (which was the firſt moving Cauſe) ceaſes, or is abated: Soon after which Ceſſation, as there was no morbid Matter, nor obſtructing Cauſe, to increaſe the Stimulation, Motion, Attrition, and Collection of more *Fire*, the *repulſive Force of the Fire* ſoon becomes greater than its *collecting Power*, and it ſoon diſſipates and diſperſes itſelf by *its repulſive Power* into the common *Maſs of Fire*, and the circulating Fluids return to their regular Motion again, and the *Heat* of his Body is ſoon reſtored to that Degree of Heat, which is proportional to that Quantity of Motion and Collection of *Fire* by it, as in Health.

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[q] See Page 426.

This is the *State* and *Action* of *Fire* in the Body, when the *collecting* and *repulſive* Powers are equal, as in a State of Health: as alſo in the Production of all *Fevers*, as deſcribed; ſo likewiſe in producing a *Criſis*, where the Quantity of *Fire* collected is neither too great, nor too little, but ſo much as is ſufficient to *concoct* the morbid Matter, and produce a perfect *Criſis*.

But when the *Stimulation*, the *Motion* and *Attrition* of the Fluids, are ſo very great, that the *attracting* and *collecting Power* ſo much exceeds the *repulſive Power*, as we ſee ſometimes happens to be the Caſe in ſome violent high Fevers, that the Quantity of *Fire* collected thereby is ſo great, that its *Heat* proves deſtructive to the Patient, before a *Criſis* can be brought on, if it be not timely abated by proper Remedies; as, in a *Cauſos*, and ſome violent *inflammatory Fevers*. In which Caſes, we ſometimes find the Motion of the Blood is ſo rapid and great, (eſpecially when the Patient has ſtrong elaſtick Solids, and the Inflammation is violent) that the *Motion* and *Attrition*, and the *Collection* of the *Fire*, and conſequently the *Stimulation* and *Heat*, and Height of the *Fever*, is ſo great, that both the great Quantity of the *Fire*, and its quick Motion into, through, and out of the Body again, carries off ſome of the fineſt, thinneſt, and moſt ſubtile Parts of our circulating Fluids with itſelf; *viz.* the *nervous Fluids* or *Spirits*, the fineſt Lymph, *&c.* whence, by the Continuation of that *Heat*, the remaining Part of the Fluids become too glutinous and thick to paſs freely through the ſmall minute Veſſels; (as in a *Cauſos*, when the Blood taken or flowing from the Noſe inſtantly coagulates like Seal-wax) whence the Secretion of the Spirits is diminiſhed, and the nervous Solids become too dry and inactive; and from both theſe Cauſes, the Perflux of the Fluids, in the ſmalleſt Veſſels, becomes irregular and unequal, which produces a Delirium, a quick, ſmall, tremulous, irregular, or intermitting Pulſe, attended with Tremors, Catchings, Subſultus Tendinum, Spaſms, and Convulſions, &c.

And from that Diminution of the *Vis Vitæ*, and the Immeability of the ſmall Veſſels, on the Surface and remote Parts of the Body, they become inactive and relaxed; whence come cold clammy Sweats, with great Coldneſs of thoſe Parts, though a great Heat ſtill remains about the vital Parts, where the quick Motion and Attrition of the Circulation of the Fluids, ſtill continues in the larger Veſſels near thoſe Parts, till at laſt the Circulation ceaſes, and the Patient dies; and as all Motion ceaſes, no more *Fire* is collected; and all that was collected before, ſoon eſcapes by *its repulſive Power*, and the Body becomes cold.

Thus we may account for all the other injurious and fatal Effects of *Fire* on the human Body, when *it* is *collected* in too great a Quantity, by the over great and violent *Motion* and *Attrition* and *Stimulus* of the circulating Fluids, and acts with too great a Force; as in all ſimilar Caſes, in the ſame manner, and from the ſame Cauſes, according to the ſame Principles, and *Laws of Motion of Fire*, by which it always moves and acts.

And on the contrary, the Deficiency of *Fire*, from the Want of a ſtronger Stimulus, and quicker Motion and Attrition between the Solids and Fluids, whereby a ſufficient Quantity of this *ſubtile pure Fire* is not collected, to carry on the Digeſtion, Chilification, and Sanguification, in a perfect complete manner, from whence various Diſeaſes may and really do ariſe; as, all thoſe Diſeaſes which ariſe from a lax weak State of the Fibres[u]; *Morbi a Glutinoſo Spontanio*[w]; *Morbi ex Defectu Circulationis*[x], &c. *a Leucophlegmatia, Chloroſis, Anaſarca, Paralyſis*[y], and ſome others; ſo likewiſe in ſome ſlow Fevers, where the Stimulus of the *Fire*, and the Motion and Attrition of the circulating Fluids, is too weak and languid to collect a ſufficient Quantity of this *pure Fire*, to effectually attenuate and concoct the *morbid Matter*, ſo as to fit it to be carried off by a perfect critical Evacuation, as in ſome *ſlow nervous Fevers*, &c.

Hence the *judicious Phyſician* may clearly ſee when *Nature* indicates, and when he ſhould adminiſter *warming attenuating cardiac Medicines*; alſo when *ſhe* indicates, and he ſhould preſcribe *Phlebotomy*, or other *Evacuations*,

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[u] Boerhaav. Aphoriſ. Aph. 24, &c. [w] Idem, Aph. 69, &c. [x] Idem, Aph. 106, &c. [y] As we often ſee a Palſy cured by a Fever coming upon it.

Evacuations, and *cooling attenuating antiphlogiſtick Medicines*, as well as when they ſhould be more *attenuating* and *cooling*, and when they ſhould be leſs ſo, in the Cure of the above-mentioned inflammatory Diſeaſes.

Hence we may alſo obſerve in our Practice, and clearly ſee that *Nature* conſtantly calls in the Aid and Aſſiſtance of this *pure elementary Fire*, not only in all the Motions and Actions which are performed in the human, and all other animal Bodies, as in that of *Digeſtion*, the making *Chile*, *Blood*, &c. and in cauſing their Growth and Increaſe, and in performing all the Motions and Functions of animal Life; but alſo in *her* beneficent and ſalutiferous Ways and Methods of carrying off and curing *Diſeaſes*, and in reſtoring Health, as well as in preſerving and continuing Life afterwards. Seeing that without theſe *Motions* and *Actions of Fire*, according to *its own peculiar Laws of Motion*, by which it always moves and acts, and produces all *its Effects*, there could neither be any *animal Senſation*, *Motion*, *Action*, or *Life*, nor any ſuch Beings as Men, or any other inferior created Animals exiſting, in that State and Condition in which we and they all now exiſt; ſince without FIRE, and its manner of moving and acting, according to *its peculiar Laws of Motion*, and *its* having its other *peculiar Properties*,

Properties, as before-mentioned, by which *it moves and acts*, all created animal Beings, and all material Bodies, would be one immoveable, inſenſible, inert, ſolid cold Maſs of Matter, at perfect Reſt: Hence we ſee that *Fire* is the Antagoniſt to the general *Law of Attraction* in all other Bodies; and without Fire, all Bodies would be one inactive immoveable Body, at reſt, without Motion or Life; being ſtrongly attracted to each other by Gravitation and Attraction, and no contrary acting Power or Antagoniſt to them.

Hence we alſo ſee, that neither Men, nor any other created Beings that we have any Knowledge of, could continue to exiſt one Moment, without the Aſſiſtance of the *Motions* and *Actions* of FIRE, no more than we can without the Motions and Actions of AIR: Neither could the *Air* produce thoſe Effects which it does, upon the human and animal Bodies, without the Aſſiſtance of the Action of *Fire* to rarify and expand, and ſo render it more elaſtick, as well as to give it Motion.

Although this is not uſually apprehended, or generally known, yet it is true: And it is alſo moſt probable, that *Air* could neither be expanded, nor contracted or condenſed, without the Action of *Fire* upon it; but would moſt probably be a ſolid, condenſed, fixed, immoveable cold Maſs of Matter, without Motion, as *Water*, *Spirits of Wine*, and *Mercury*, are found to be without *Fire:* But this ſhould be confirmed by Experiments, before it is received as a certain Truth.

Notwithſtanding that theſe neceſſary and extraordinary *Motions* and *Actions* of *Fire*, have been ſo little obſerved, and many of them not ſo much as thought of by moſt *Philoſophers* and *Phyſicians*, yet they are true, and will be found by Obſervations and Experiments to be ſo; and may be rendered very uſeful, if properly applied, to improve the *medical Art*.

However we find, that ſo great was the *Penetration* of that *Father of Phyſick*, *Hippocrates*, and ſo accurate was *he* in all his Obſervations, that *he* ſeems to have known much more of the Nature and Actions of *Fire*, than any of his Succeſſors did, before the great *Boerhaave*. He gave the Name of Πὺρ, *Fire*, to a *Fever*, as, Πὺρ ἔλαβε, *Ignis vehemens*. Epidem. L. 1. Æger. 6. and Ægr. 4. 2. Πὺρ ἔλαβεν, *Ignis*, *vel Febris vehementiſſima*. And ſays, Τὸ μὲν γὰρ πῦρ δύναται παντα δὶα παντὸς καινησαι, Lib. 1. de Victus Ratione. And further ſays, *Omnia igitur tum Animantia, tum homo ipſe, ex duobus, facultate quidem diverſis, uſu verò conſentientibus, conſtant,* IGNE *inquam et* AQUA.—IGNIS *ſiquidem omnia ſemper movere,* AQUA *verò omnia ſemper nutrire poteſt.*

—— *Igni ſuus eſt impetus*, &c. Ibidem, L. I.

From theſe, and many other Places in *his Works*[a], it appears, that *he* had diſcovered that *Fire* put the conſtituent Parts of all other Bodies in Motion, and thereby was a Means, or had a conſiderable Share of Action in nouriſhing the Body, as well as in aſſiſting to concoct the morbid Matter, in order to carry off and cure Diſeaſes. And both what HE has ſaid on *Fire*, and upon *inſenſible Perſpiration*, have been either neglected, or overlooked by moſt, if not all ſucceeding *Phyſicians*; the latter till *Sanctorius* diſcovered its Quantity, and ſhewed the great Uſe that the Knowledge of it is of, in diſcovering the Cauſes, as well as the more rational Methods of curing Diſeaſes, *Tollendo Cauſas*.

And what *he* has ſaid on the firſt, *viz*. on FIRE, has been as much overlooked, and as little conſidered till this time; although the Knowledge of *its Properties*, and *Laws of Motion*, and its Manner of acting on the human Body, when well underſtood, and properly applied, may hereafter be found to be of no leſs Importance, in inveſtigating the Cauſes, and the Manner of the Production of moſt *Fevers*, as well as in improving the Methods of curing them, tho' this may not be effected, and generally received, in my time, I queſtion not but it will hereafter.

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[a] See his Books on Epidem. Diſ. his Aphoriſ. de Victus Ratione, et in aliis locis.

Theſe Conſiderations, and various Obſervations and Experiments, which I had made upon *Fire*, and its Manner of *acting*, ſeveral Years ſince, together with the many extraordinary and wonderful Effects which it frequently produced, were the Motives that firſt induced me to inquire further into its Motions, and the Manner of its acting, by the Means of Obſervations and Experiments, till I had diſcovered *its peculiar Laws of Motion*; the learned Profeſſor *Boerhaave* having diſcovered moſt of its ſingular and *peculiar Properties*, ſome Years before: And notwithſtanding that I found many of thoſe *its Properties*, and *its Laws of Motion*, were very different from the *Nature* and *Properties*, and the *Laws of Motion* of all other *Matter*; yet having obtained ſatisfactory Proofs of the Truth and Certainty of thoſe *Properties*, and *Laws of Motion of Fire*, by Experiments and Demonſtrations, that it did *move* and *act*, and produce all its Effects, by and agreeably to them: Wherefore it induced me to inquire further, how far *Fire* was employed and concerned in producing and performing the various Actions, Offices, and Functions of Life in the human Body, or in producing Diſeaſes, or was of Service in curing them; and accordingly ſeveral Obſervations, and a few Experiments, when the *Properties* and *Laws of Motion of Fire* were known, ſoon made it clearly appear, that the *Motions and Actions of Fire* have a very conſiderable *Share*, both in the Nouriſhing and Growth of the Body, the Preſervation and Reſtoration of Health, and the Continuation of Life, as well as in the Manner of the Production of various Diſeaſes, and no leſs ſo in the right Methods of curing them; ſince either too great, or too little a Quantity of *Fire* in the Body, muſt be deſtructive to it. And ſeeing that the Quantity of *Fire* collected by Bodies in Motion, is always as the Quantity of Motion and Attrition conjunctly. And the Quantity of *Fire* repulſed or emitted, will be as the Quantity collected, and the time of its being retained conjunctly; becauſe the *repulſive Power* of *Fire* is increaſed in proportion to the Nearneſs of *Contact* of the *Elements of Fire*, which therefore will always be as its Quantity, in the ſame given Space: (but there are ſome Bodies which will retain more *Fire* than ſome others will.) And the Quantity of *Heat* generated in the Body, will always be as the Quantity of *Fire* collected and emitted, its *Momentum*, and the Times of its Retention conjunctly. Hence ariſes that violent *Heat* in a *Cauſos*, and ſome inflammatory Fevers.

But the Quantity of Attrition is not always as the Quantity of Motion in all Sorts of Bodies; the Smoothneſs and Lubricity of the conſtituent Particles of ſome Bodies being much greater than they are in others; therefore the ſame Quantity of Motion will not cauſe the ſame *Attrition*, nor *collect* the ſame Quantity of *Fire*, nor generate the ſame Degree of *Heat*.

And we alſo find, that there are ſome Bodies which will retain *Fire* longer, and in a much greater Quantity than ſome other Bodies that are of the ſame or greater Denſity will[a]; as Linſeed-oil retains almoſt three times as much *Fire* as *Water* will, though it is heavier than the Oil; and that Oil retains as much *Fire* as *Mercury*, which is 15 times denſer or heavier than it; the Quantity of *Fire* in the Mercury and the Oil, is as 600 to 212 in the Water; the Cauſe of which is not clearly demonſtrated yet, but is wanted to be done.

However we find, that the Quantity of *Fire collected*, and conſequently the Degree of *Heat* in Bodies, is as the Quantity of Motion and Attrition, and the Times of its Retention in Bodies conjunctly. Hence we ſee, that a Deficiency of *Fire* may either produce

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[a] See the Laws of Motion of Fire, in the Query at the End.

duce, or greatly increaſe ſome Diſeaſes, and that too great a Quantity of it may be deſtructive to the Body; and in all thoſe Diſeaſes which proceed from a Defect of Circulation [b], or from a cold viſcid pituitous Humour, a dead Palſey, a Chloroſis, an Anaſarca, old Age, and ſome other Diſeaſes, wherein the Circulation of the Fluids is too inert and languid, ſo that their *Motion* and *Attrition* will not *collect* ſuch a Quantity of *Fire*, as is neceſſary to attenuate the Fluids ſufficiently, in order to perform the Functions of Life perfectly and regularly; and in ſome *ſlow Fevers*, wherein the *Motion* and *Attrition* of the circulating Fluids is too languid to *collect* a ſufficient Quantity of *Fire*, to attenuate and concoct the morbid Matter which cauſes the Fever, ſufficiently, ſo as to fit it to be carried off by a critical Evacuation; ſince a Deficiency of *Fire*, and its attenuating Power, may, and too often does, either retard or hinder an effectual Reſolution, or a due Concoction and Expulſion of the morbid Matter by a *Criſis*, eſpecially if wrong treated at that Time of the Fever. And on the contrary, a too great and violent Motion of the circulating Fluids cauſes ſo great a *Motion* and *Attrition* between them and their containing Solids, as *collects* too great a Quantity of

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[b] Vide Aphoriſ. Dr. Boerhaavii, Aph. 24, &c. Aph. 69, &c. et Aph. 106, &c.

of *Fire*, and produces ſuch a violent *Heat* or *Fever*, as not only may hinder the due Concoction and Expulſion of the morbid Matter, or as may prevent a perfect Reſolution of it, which is too often the Caſe, proves deſtructive to the Patient ſooner, if not timely prevented and relieved by a proper Treatment.

Hence we may perceive, and in ſome degree ſee, (though we are but capable of ſeeing a few, if any things perfectly) how wonderfully and moſt wiſely INFINITE WISDOM has formed and given Exiſtence to *Fire*, and ſo fitted and ordained, or ſubjected it to move and act by ſuch *peculiar Laws of Motion*, to anſwer ſo many beneficent Ends, and ſuch great and wiſe Purpoſes: And has no leſs wiſely and wonderfully formed Man, and all other Animals, and given the various Parts of their Bodies ſuch Motions and Actions, as will enable and fit them to *collect* ſuch Quantities of that ſubtile *Fire*, as is neceſſary to carry on and perform all the Functions of Life regularly, without their knowing it; and not more than is neceſſary, except when and where our own Irregularities and imprudent Actions, or ſome Accidents cauſe it: And when theſe Cauſes ſo happen to *collect* that *Fire* in too great a Quantity in any Body, ſo as that it might prove to be deſtructive to that Body, ſo wiſely and wonderfully has the SUPREME BEING adapted and proportioned the *repulſive Power of Fire,* to *its collecting Power,* or *its repelling and emitting Force,* to *its attracting and collecting Force,* that the one is adapted and proportioned to the other, with a moſt ſurpriſing Exactneſs, unleſs where ſome of our own Irregularities, or ſome other Accidents prevent it, where ſome of the Excretions, or the other Functions of Life are obſtructed or impaired, and hindered from performing their proper Office regularly, by ſome heterogeneous Cauſe.

From hence, and what is ſaid before, it requires no great Penetration to ſee, that a true Knowledge of the *Laws of Motion of Fire,* and its Manner of acting upon the human Body, may be of conſiderable Service, not only in inveſtigating the Cauſes, and the Manner of the Production of ſeveral Diſeaſes, but alſo in forming the moſt rational and judicious Methods of *treating* and *curing* them: If we do but properly and truly apply them, when and where, and only when and where they are really concerned, and are truly applicable, in our inductive Reaſoning, and are ſufficiently careful to carry on and always keep that Reaſoning agreeably to the *Laws of Motion of Matter,* the *Circulation of our Fluids,* and the *Laws of Motion of Fire,* and as conformable to the Motions and Actions of

Nature,

Nature, and thoſe Effects which ſhe really produces in the Body, eſpecially in all thoſe Diſeaſes wherein *Fire* is conſiderably concerned in producing them; ſince that a true Knowledge of the Cauſes, and the Manner of the Production of Diſeaſes, and their Symptoms, is the moſt material Knowledge in the *medical Art*, and is of the greateſt Conſequence in forming a right Method of treating and curing them.

Theſe, and ſome other Conſiderations, induced me to publiſh that ſmall *Treatiſe* on the *Nature, Properties, and Laws of Motion of Fire*, on my Return into *England*, in the Year 1759; in hopes that the Knowledge of them might not only contribute ſomething towards the Improvement of medical Knowledge, but that they would be of Uſe in more ſatisfactorily and clearly explaining ſeveral *Phænomena of Nature*, and thoſe extraordinary and wonderful Effects which are frequently produced by *Fire*; as alſo in ſolving ſome Philoſophical Queſtions, wherein *Fire* is concerned, either as a Principle, or a material Agent.

And in order that the Knowledge of thoſe *Laws of Motion of Fire* may be more uſeful, and may be applied to the Improvement of medicinal Knowledge, I have here added this further Account of the Manner in which *Fire* acts in and upon the human Body; wherein I have endeavoured to explain

plain more fully how *it acts*, according to *its own Laws*, both in performing the Work of *digeſting our Food*, the forming of *Chile*, and then converting it into Blood, and the nutricious Juices, as well as in applying them, and in performing all the other neceſſary Functions of Life: I have alſo endeavoured to explain, in a ſhort manner, how *Fire* is concerned in producing ſeveral Diſeaſes, eſpecially *Fevers*, and how *Nature* employs and makes uſe of this *pure Fire*, in perfecting a *Criſis*, according to *her* Method of curing them; that we may by properly applying thoſe *Laws*, be better enabled to account more ſatisfactorily and more clearly for the various Operations and Effects which are produced by *Nature*, by the Means and Aſſiſtance of *Fire*, and its Actions on the human Body, more eſpecially in thoſe Diſeaſes wherein *Nature* employs *Fire* as a Material, or as a Principle Agent, in *her* Method of curing them: And in the ſame manner as I have endeavoured to apply theſe *Laws*, both in inveſtigating the Cauſes, and in improving and obtaining a more ſatisfactory, and a more certain, as well as a more ſucceſsful Method of curing thoſe Diſeaſes, for ſeveral Years paſt in my Practice; though I have avoided mentioning the *Laws of Motion of Fire*, as much as poſſible, in that Treatiſe, which I publiſhed on the *Diſeaſes of Barbadoes*,

badoes, becauſe thoſe *Laws* were not then publiſhed, or well known. And as I have found the Method of making ſuch Obſervations on *Diſeaſes*, and the Motions of *Nature*, and the Method of Reaſoning from them, according to the *Laws of Motion of Matter*, and the *Laws of Motion of Fire*, and *the Laws of Circulation of our Fluids*, were of conſiderable Uſe and Service to me, in my Endeavours to inveſtigate and arrive at a more certain and true Knowledge of the Cauſes and right Methods of curing Diſeaſes, I therefore communicate them to all thoſe who may think proper to purſue the ſame Methods, at leaſt till they can find better.

But ſeeing that we are, and all others may be certain, that *Fire* is a Body, which is thus continually employed by *Nature* in performing all the Functions of Life, and frequently both in producing and curing Diſeaſes; the Knowledge of *its Laws of Motion*, and Manner of acting, is neceſſary to obtain a true Knowledge of the Cauſes and the Manner of the Production of various Diſeaſes, and may be of great Service to *Phyſicians*, if they are properly and truly applied, (without forming *Hypotheſes*) to the Improvement of *medical Knowledge*, and the Advancement of that *Science*; with which View I ſpent ſome of my leiſure Hours in collecting and compoſing this *Treatiſe*

Treatiſe on *Fire,* which I have now added to the preceding Inquiry, which I intended to have left behind me as a poſthumous Tract, but have been prevailed upon to publiſh it now; and if they contain any Things which are either uſeful or new, which may be any way applied to the Improvement of the *healing Art,* for the *Good of Mankind,* I ſhall not think my Labour loſt, or my Time ill-ſpent.

FINIS.

The READER is deſired to correct theſe Errors of the Preſs.

Page 12. *line* 4. *read* Amrou.
77. *l.* 18. *r* Arcagathus.
For p. 311. *r.* 113.
143. *l.* penult. *r.* Califf.
294. *l.* 21. *r.* Eccoproticks.
326. l. 16. for but, *r.* and.
336. *l.* 1. in the Note for Horolog. *r.* Noſologic.
386. *l.* 10. for Lacea, *r.* Lacca.
431. *l.* 24. dele , after Zaraduſht

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